The Six Days Trial (Full Report Copiously Illustrated)

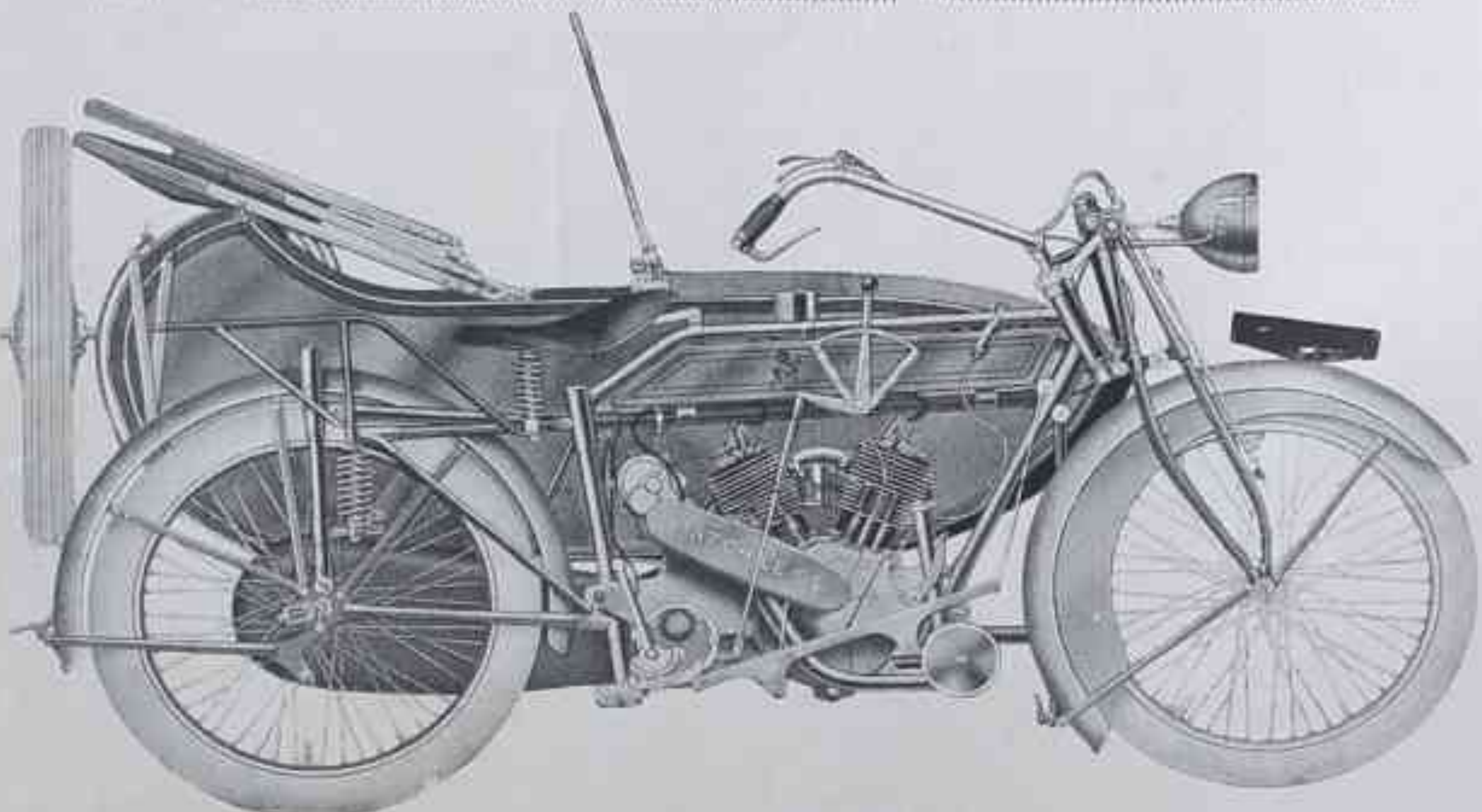
3d.

MOTOR CYCLING

No. 515. VOL. XX.
WEDNESDAY,
SEPT. 24, 1919.
Registered at the G.P.O. as a Newspaper.

Matchless

THE PERFECT PASSENGER MOTORCYCLE



MODEL "H" FOR 1920.

Important Features:

- Cantilever spring frame — double motion spring forks.
- Spring sidecar frame—handsome coach-built body.
- Gate change three-speed gear—metal indestructible clutch.
- Silent chain drive entirely enclosed in oil-tight case.
- Combined kick-starter and valve lifter.
- Interchangeable, quick detachable wheels.
- 28 in. x 3 in. Clincher Dreadnought tyres.
- Footboards, mudshields, large mudguards.
- St nds to all three wheels.
- Luggage carriers on machine and sidecar.
- Patent truss connecting rear wheel to sidecar wheel, etc.

Forming absolutely the finest passenger motorcycle ever placed on the market

H. COLLIER & SONS, LTD.,

44-45, Plumstead Road, Plumstead——LONDON, S.E.18.

Telephone—Woolwich 17 and 18. **Works:—Burrage Grove and Maxey Road, Plumstead.** Telegrams—"Matchless, Woolwich."

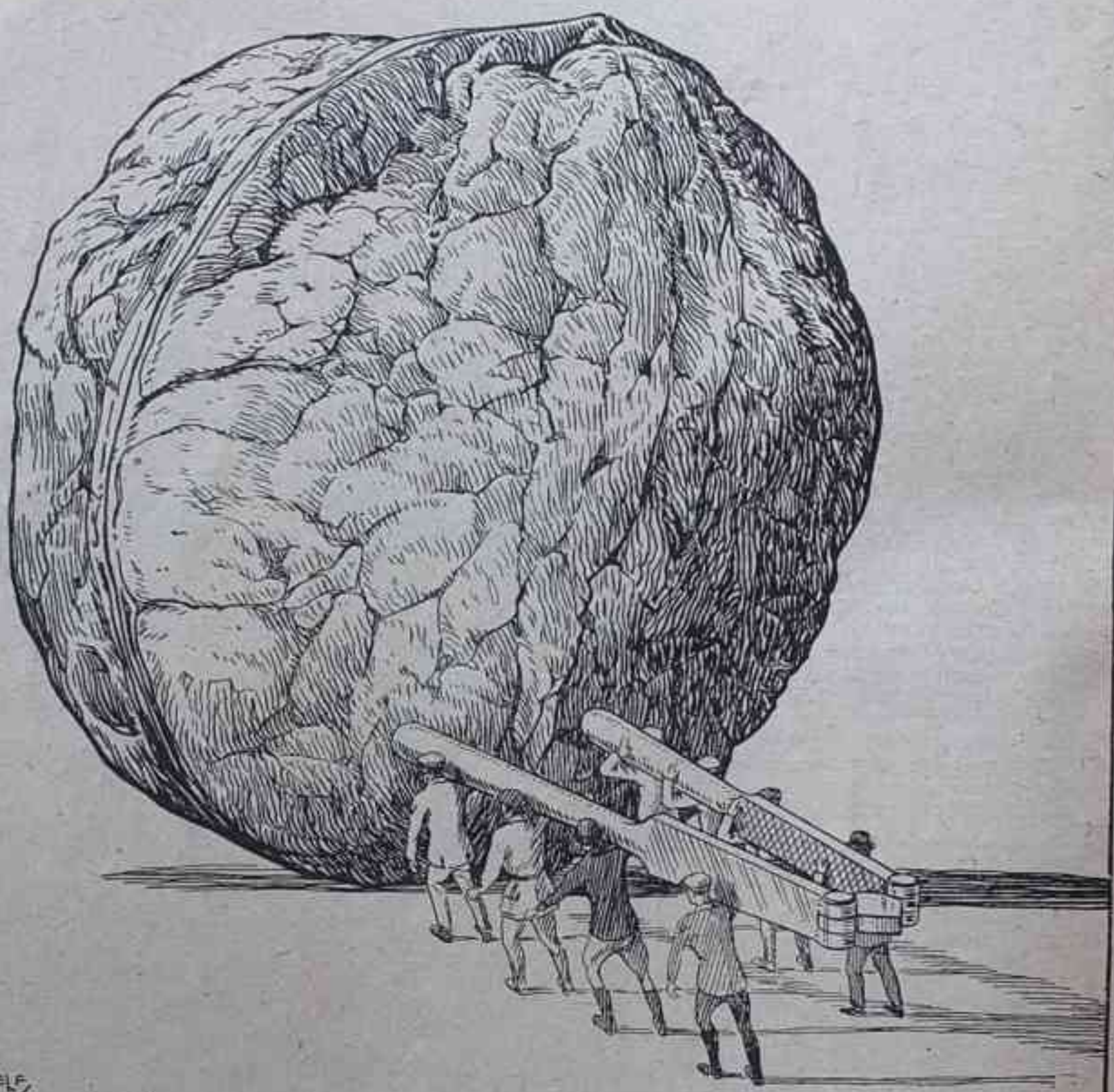
The CLYNO 1,800 Mile Trial

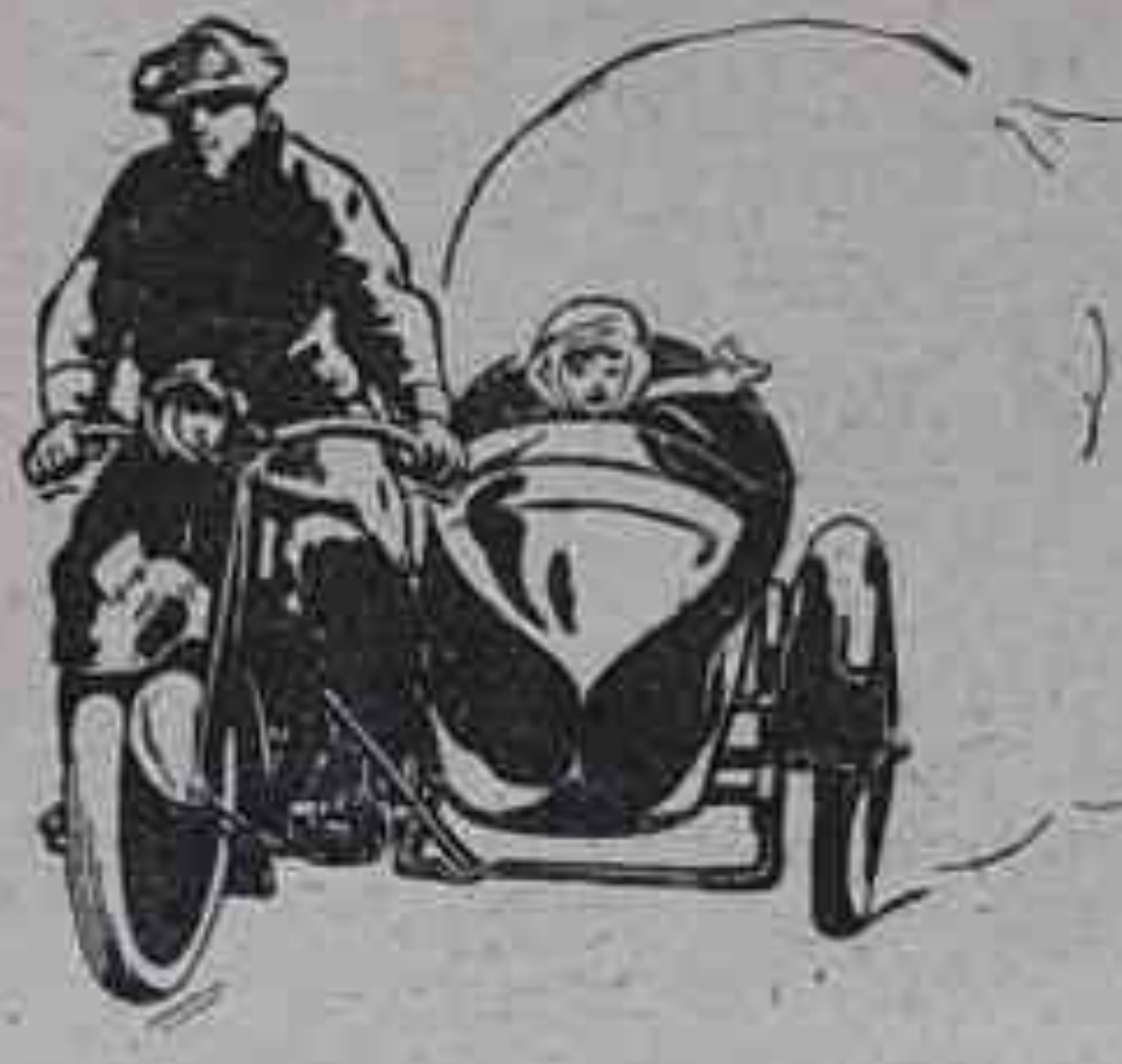
That was the first stage in the great "stunt," and the way our "steeds" performed was encouraging indeed. We didn't spare them either. Each was loaded to its utmost and, of course, carried an adult in the side car. We left Wolverhampton in the afternoon of 18th August, proceeded via Manchester to Littleborough and Blackstone Edge, which was climbed mostly on top gear. Then on to Halifax and Keighley. The climb out of Halifax was taken completely on "top." Then we went from Skipton on to Hexham, successfully manipulating that ferocious hill at Kettlewell.

So far so good, 250 miles without a hitch. And an average 20 miles an hour all the way.

We shall report the second stage in our next advertisement in "Motor Cycling," dated 1st Oct.

CLYNO ENGINEERING Co.
Clyno Works,
WOLVERHAMPTON.





Higher speed engines have put your lubricating oil on its mettle

A number of motor cycles are now equipped with engines capable of an engine speed of from 2000 to 2600 revolutions per minute—some over.

To realize the meaning of this new demand on lubrication, we must know what 2600 r.p.m. means.

Every second the magneto must furnish 21 individual sparks in each cylinder. Twenty-one times *per second* the temperature, at time of ignition, reaches from 2000° to 3000° Fahr.

In an engine having, for instance, a bore of 8·2 m.m., and stroke of 11·5 m.m., during each *second* each piston travels over a surface equal to about 27 square feet.

If the combined heats of combustion and friction were permitted to continue unchecked, the cylinders would soon be a mass of molten metal.

Destructive friction heat must be prevented. The burden falls sharply on a thin film of lubricating oil—seldom over ·003 of an inch thick.

If the oil is of poor quality this thin film stands in great danger of breaking down.

For example, a prominent manufacturer of tractors recently made the following severe test :

A tractor pulling 6500 pounds on drag was driven for 30 minutes through mud ten inches deep. With a supposedly good oil the water in the radiator reached boiling point in 17 minutes. On replacing this oil with the correct grade of Gargoyle Mobiloils, the boiling point, under the same operating conditions, was not reached until 27 minutes passed by.

This plainly indicates better lubrication and a marked reduction of friction heat.

Gargoyle Mobiloils are sold by dealers everywhere

GARGOYLE

Mobiloils

A grade for each type of motor

Chart of Recommendations for

Motor Cycles

Explanation.—In the Chart below, the letter opposite the make indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A"; "Arc" means Gargoyle Mobiloil "Arctic," &c.

Model of	1919		1917-18		-1916	
MAKE OF MOTOR CYCLE	Summer	Winter	Summer	Winter	Summer	Winter
A.B.C.	A	A	—	—	A	A
Abingdon	BB	BB	—	—	BB	BB
A.J.S.	BB	BB	—	—	BB	BB
Allen	TT	TT	—	—	TT	TT
Ariel 3½-h.p.	BB	BB	—	—	BB	BB
" 5-6-h.p.	A	A	—	—	—	—
Autowheel	BB	BB	—	—	BB	TT
Bat	BB	BB	—	—	BB	BB
Bradbury	BB	BB	—	—	BB	BB
Brough	BB	BB	—	—	BB	BB
B.S.A.	TT	TT	—	—	BB	BB
Calcott	—	—	—	—	TT	TT
Calthorpe	BB	BB	—	—	BB	BB
" 2-stroke	TT	TT	—	—	TT	TT
Chater-Lea	BB	BB	—	—	BB	BB
" 2-stroke	TT	TT	—	—	TT	TT
Clyno	BB	BB	—	—	BB	BB
" 2-stroke	TT	TT	—	—	TT	TT
Connaught	TT	TT	—	—	TT	TT
Diamond (Villiers)	TT	TT	—	—	TT	TT
" (other models)	BB	BB	—	—	BB	BB
Dot	BB	BB	—	—	BB	BB
Douglas	BB	A	—	—	BB	A
Elswick	TT	TT	—	—	TT	TT
Enfield (J.A.P.)	BB	BB	—	—	BB	BB
" (other models)	TT	TT	—	—	TT	TT
Excelsior 2-stroke	TT	TT	—	—	TT	TT
" (other models)	BB	BB	—	—	BB	BB
Harley-Davidson	—	—	B	A	B	A
Hazlewood	BB	BB	—	—	BB	BB
Henderson	—	—	A	A	A	A
Hobart (J.A.P.)	BB	BB	—	—	BB	BB
" (Villiers)	TT	TT	—	—	TT	TT
Humber	TT	TT	—	—	TT	TT
Indian	—	—	B	A	B	A
Ivy	—	—	—	—	BB	BB
" 2-stroke	TT	TT	—	—	TT	TT
James	BB	BB	—	—	BB	BB
" 2-stroke	BB	BB	—	—	TT	TT
J.E.S.	TT	TT	—	—	TT	TT
J.H. (Villiers)	TT	TT	—	—	TT	TT
" (other models)	BB	BB	—	—	BB	BB
Lea-Francis	BB	BB	—	—	BB	BB
Levis	TT	TT	—	—	TT	TT
L.M.C.	BB	TT	—	—	BB	TT
Matchless	TT	TT	—	—	BB	BB
Mead (J.A.P.)	BB	BB	—	—	BB	BB
" (Precision)	TT	TT	—	—	TT	TT
New Hudson	TT	TT	—	—	TT	TT
New Imperial	BB	BB	—	—	BB	BB
Norton	TT	TT	—	—	BB	BB
N.U.T.	TT	TT	—	—	TT	TT
O.K. Junior	TT	TT	—	—	TT	TT
P. & M.	BB	BB	—	—	BB	BB
Pope	B	A	B	A	B	A
Quadrant	—	—	—	—	BB	TT
Rex	BB	BB	—	—	TT	TT
Rex-Jap	—	—	—	—	BB	BB
Rover	BB	BB	—	—	BB	TT
Royal Ruby	BB	BB	—	—	BB	BB
" 2-stroke	TT	TT	—	—	TT	TT
Rudge	BB	BB	—	—	B	TT
Scott	TT	TT	—	—	TT	TT
Singer	TT	TT	—	—	TT	TT
Sunbeam	TT	TT	—	—	BB	BB
Sun (J.A.P.)	—	—	—	—	BB	BB
" (other models)	—	—	—	—	TT	TT
Triumph	BB	BB	—	—	TT	TT
Vindec	—	—	—	—	TT	TT
Williamson (water-cooled)	—	—	—	—	A	A
Wolf (J.A.P.)	—	—	—	—	BB	BB
Zenith	BB	BB	—	—	BB	BB

VACUUM OIL CO., LTD.

Caxton House, Westminster, S.W. 1

Telegrams - - "Vacuum, 'Phone, London."
Telephone - - Victoria 6620 (6 lines)

110 Guineas

110 Guineas

The Speedy Car

BRITISH MADE

ECONOMY—THE ORDER OF THE DAY. The Best Value at the Lowest Cost.

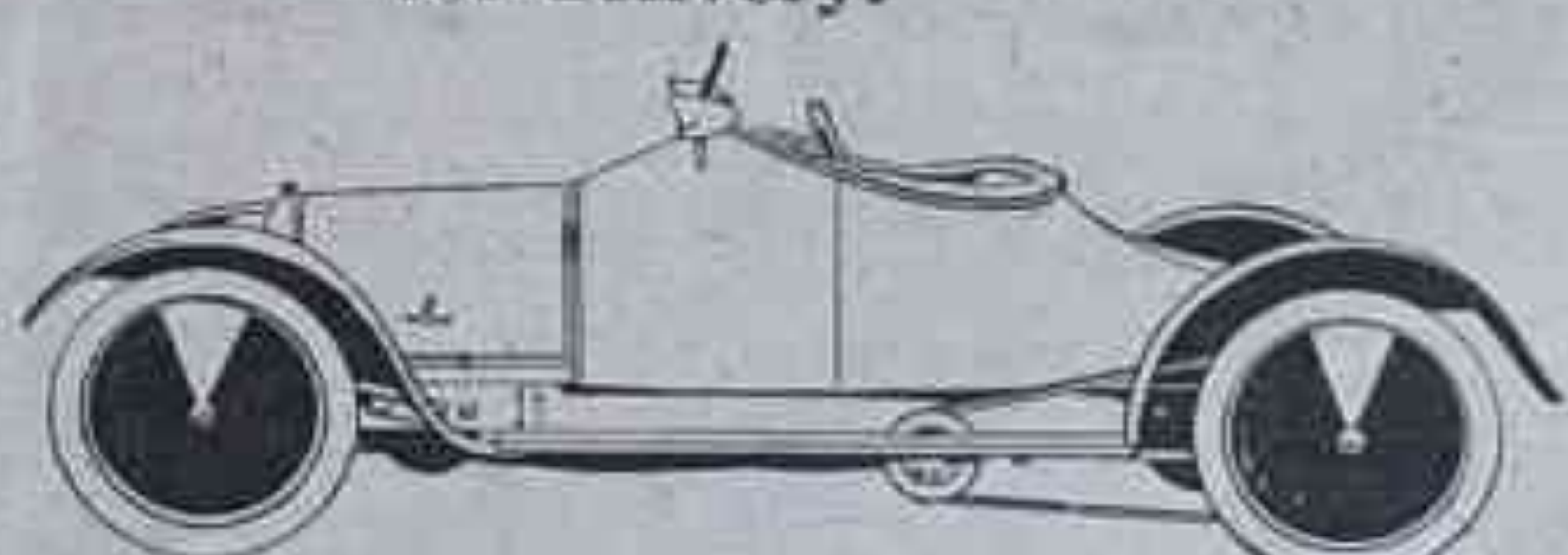
The Speedy Two-Seater Car
ONE HUNDRED AND TEN GUINEAS.

Specification.

8 h.p., Twin Cylinder V-shaped Engine, air cooled.
First-grade Magneto.
Two speeds and reverse.
9-in. Leather-to-metal Cone Clutch.
Chain drive from engine to gearbox, chain from gearbox to countershaft and belt from countershaft to driving wheels.
Two Belts, one on either side, to back wheels.
Chassis, 5 ft. 6 in. by 4 in. by 1⅜ in.
Four quarter-elliptic Springs.

Wheels, four disc and wired.
Domed Wings.
Tyres, 650 by 65 or 26 by 2½.
Carburetter of first grade.
Lighting, Electric.
Body, stream-lined, any colour
One-joint Wind Screen.
Steering, direct adjustable rake.
Weight under 6 cwt.
Mileage 60 per gallon.

¶ Agencies still open in several Districts.
¶ Individual orders filled in rotation.
TERMS—Ten Guineas with Order, balance when Car is ready for delivery.



The Pullinger Engineering Co.

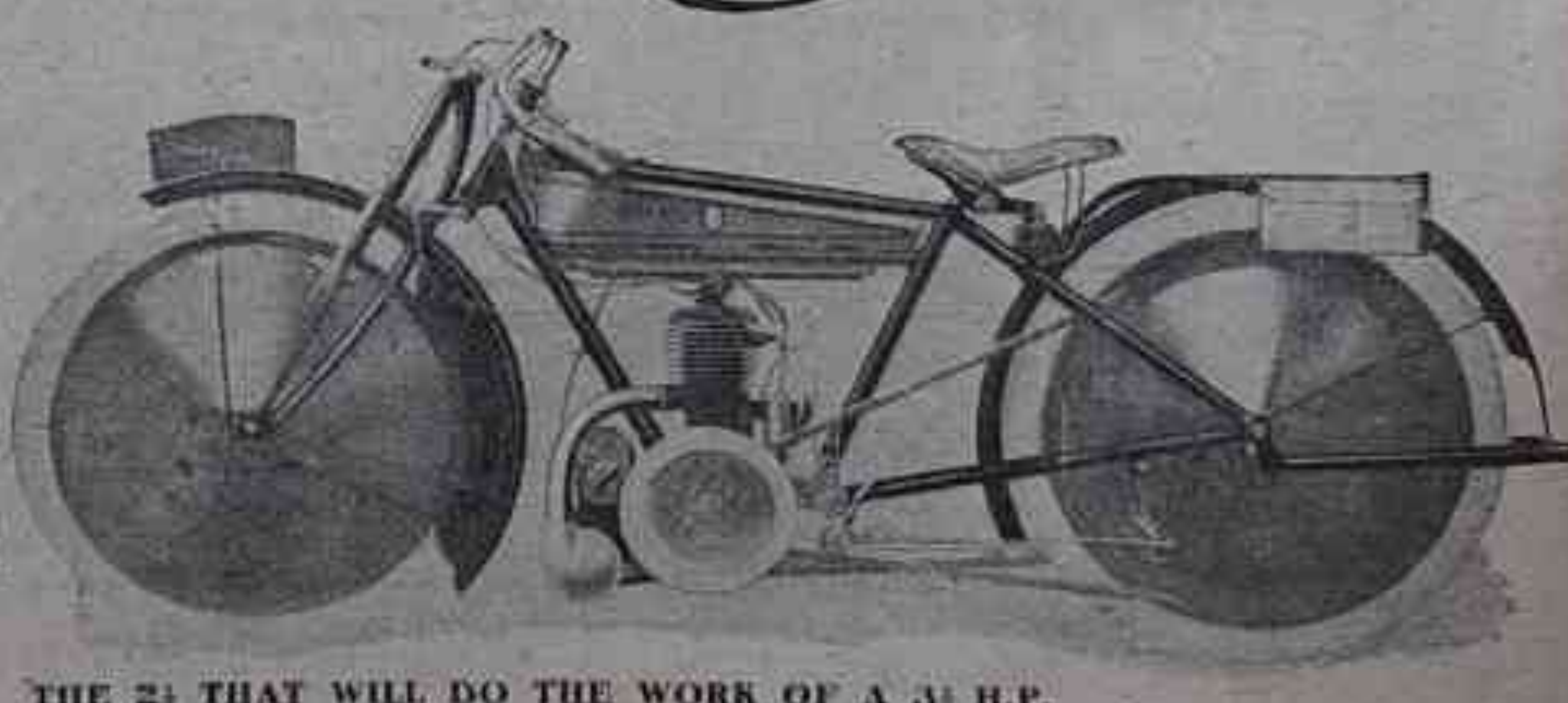
Works: Peckham, S.E., and Putney, S.W.

Registered Office:

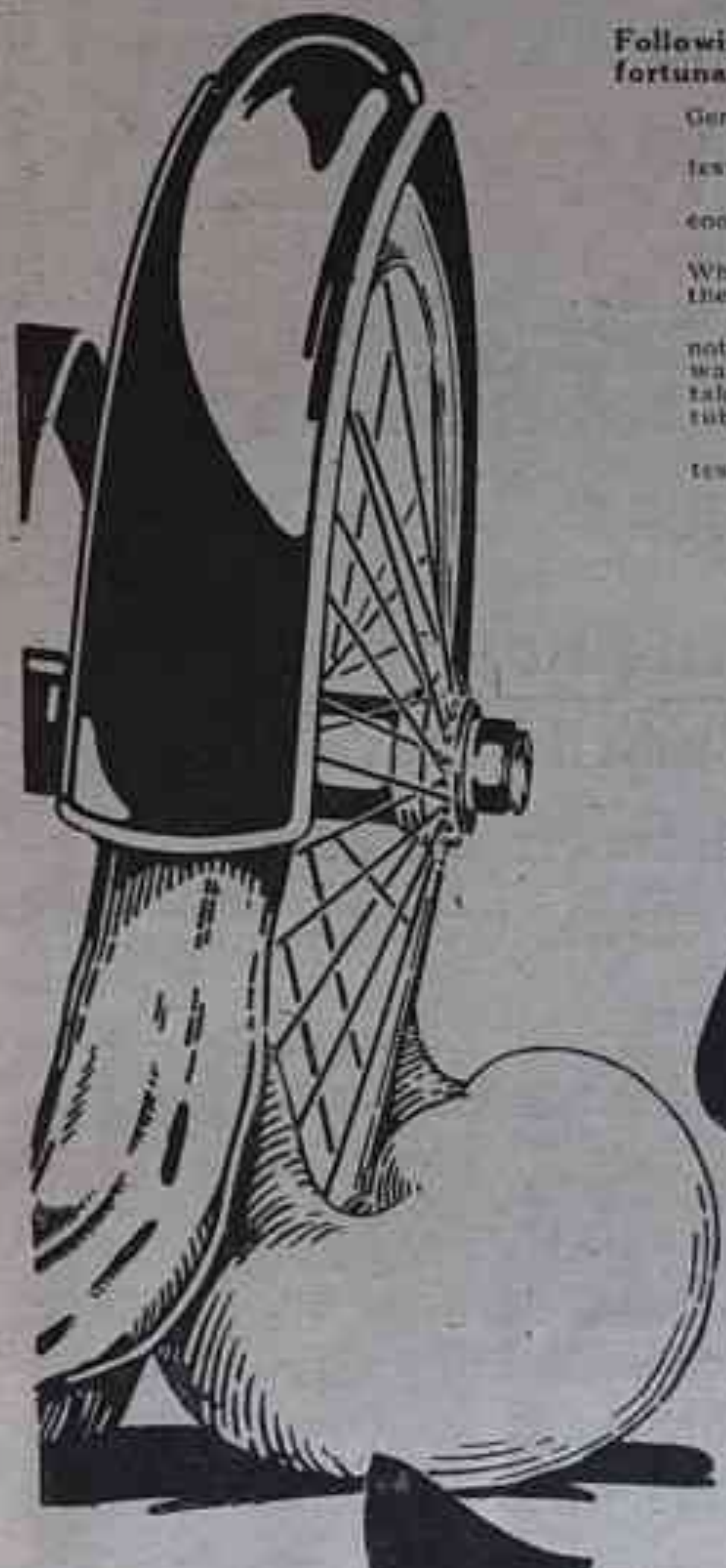
Giltspur Chambers, 52, Holborn Viaduct, E.C.1.

110 Guineas

110 Guineas



A STARTLING EXPERIENCE



Following is an account of a surprising experience of a gentleman who was so fortunate as to use a Bates Inner Tube:—

Gentlemen,

I have much pleasure in sending you the following particulars, which I think strongly testify to the excellent quality of your goods.

I recently struck on a cheap line of your inner tubes and bought one, as being good enough for sidecar work.

On the 17th inst. I brought out two boys (about 11 and 9 years of age) for a "joy-ride." When we decided to return I took such a sharp sweep that I rubbed the sidecar cover off, thereby exposing my inner tube for about quarter of its circumference.

Well, Gentlemen, I want you to try and imagine my surprise and delight that the tube, notwithstanding the terrible strain, actually held, although practically the whole air pressure was concentrated in a quarter of the original space. I need scarcely say I did not wait to take particulars with mathematical precision before undoing the valve, but I am sure the tube must have bulged something like ten or twelve inches.

I may say I am only acting from a sense of duty in sending you this, as I think such a test as your tube stood deserves wide publicity.

Thanking you for putting such a decent article on the market,

I am, yours truly,
"SATISFIED" (Dublin).

Bates
SUPER RUBBER
Inner TUBES

Don't you think it would help you to use these wonderful Inner Tubes?

W. & A. BATES, LTD., St. Mary's Mills, LEICESTER

Depots in London, Glasgow, Newcastle-on-Tyne, Belfast and Bristol.

COLONIAL WHOLESALE STOCKHOLDERS:

AUSTRALIA: A. G. Healing & Co., Ltd., 324, Post Office Place West, Melbourne; Bennett & Barkell, Ltd., Meagher and Clippen Streets, Chippendale, Sidney; Unsnell, Ltd., 122, Pirie Street, and 29, Hyde Street, Adelaide, S.A. **BRITISH EAST AFRICA:** Childs, Parr & Joseph, Nairobi. **BURMA:** Watson & Son, 85, Phayre Street, Rangoon. **F.M.S. & S.S.:** A. C. Davis, Penang. **INDIA:** Shippers & Co., Ltd., 86-1, Clive Street, Calcutta; 16, Elphinstone Circle, Bombay, and at Cawnpore. **NEW ZEALAND:** Cycle and Motor Supplies, Ltd., Featherstone and Johnston Streets, Wellington; 140, Lichfield Street, Christchurch. **SOUTH AFRICA:** H. E. A. Smith, 94, Von Brandis Street, Johannesburg.

HARLEY-DAVIDSON

We are now ready to book orders for future deliveries.

If you desire to add your name to our Waiting List, write us without delay, as all orders will be dealt with in rotation, and deliveries have now commenced.

Harley-Davidson Motor Co., Ltd.,
74, NEWMAN STREET, LONDON —— W.1.

Wood-Milne

Keygrip

MOTORCYCLE TYRES

If you would know what it is to be absolutely free from tyre trouble, to be able to negotiate the "toughest" piece of road without wondering "what is going to happen next"—or finding out, then fit the new Wood-Milne "Keygrip" Tyre.

These tyres are made on the most generous lines, and the very heavy tread gives a degree of comfort hitherto unknown.

With "Keygrips" on, it is good-bye to aches from jarred wrists and back.

Write for our Latest List.

WOOD-MILNE, LTD., & GEORGE SPENCER, MOULTON & CO., LTD.
42-46, Wigmore Street, W.1.
Wires: "Wudmiln, Wesdo, London," also "Spenmoul, Wesdo, London." Telephone: Mayfair 6789 and 6790.
MANCHESTER—[illegible] Albion St., Gaythorn; BIRMINGHAM—[illegible], Corporation Street; BELFAST—[illegible] Square West; BRISTOL—[illegible], Victoria St.; DUBLIN—[illegible], Middle Abbey Street; GLASGOW—[illegible] Street; LEEDS—[illegible] Street; NEWCASTLE-ON-TYNE—Haymarket Lane; LIVERPOOL—[illegible], Lowe St.

The "Precision" "Big" Twins.

Three New Models

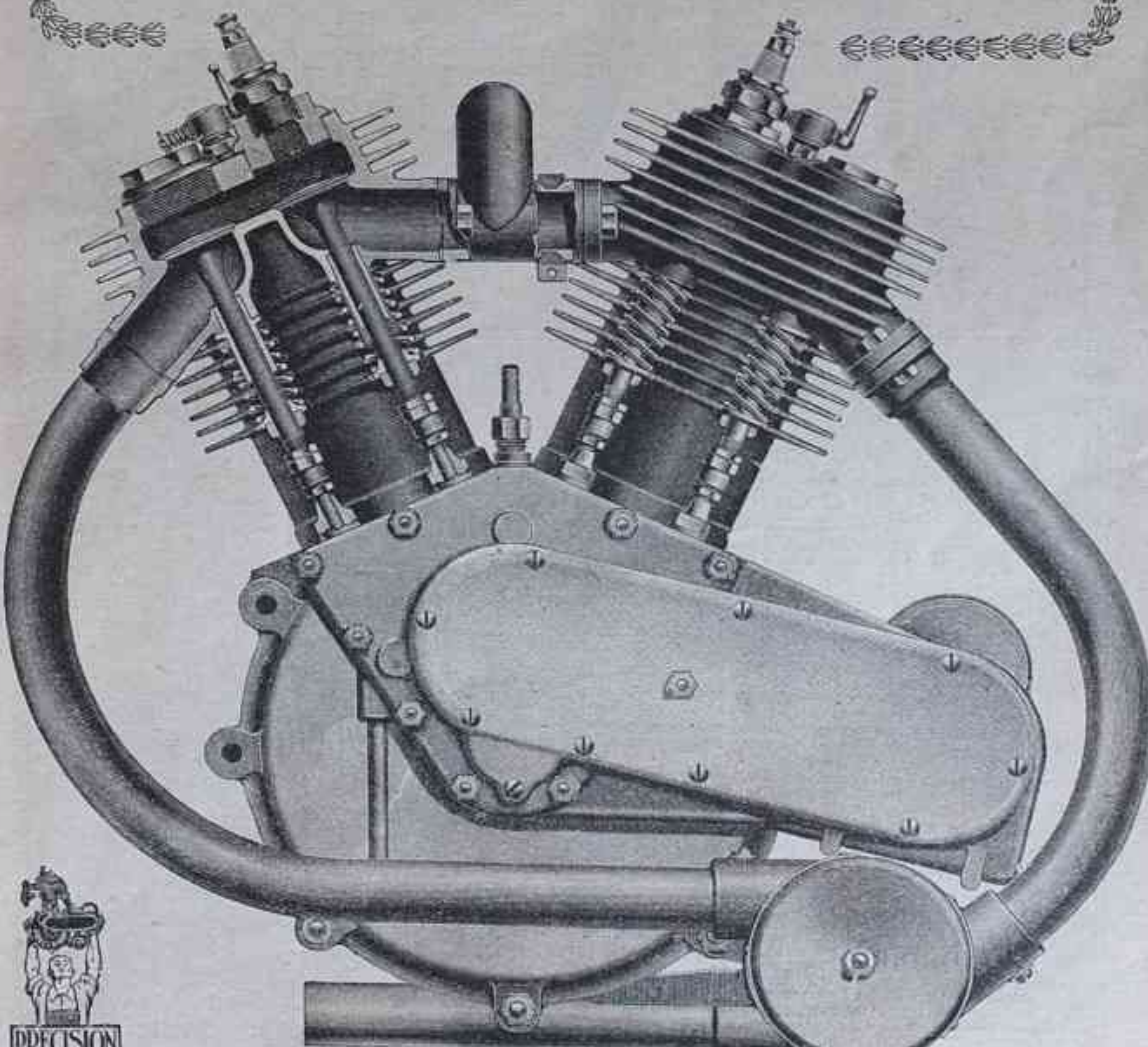
Air Cooled:
8 h.p. 85 x 85 (964 c.c.)
10 h.p. 85 x 96 (1090 c.c.)

Water Cooled:
10 h.p. 85 x 96 (1090 c.c.)

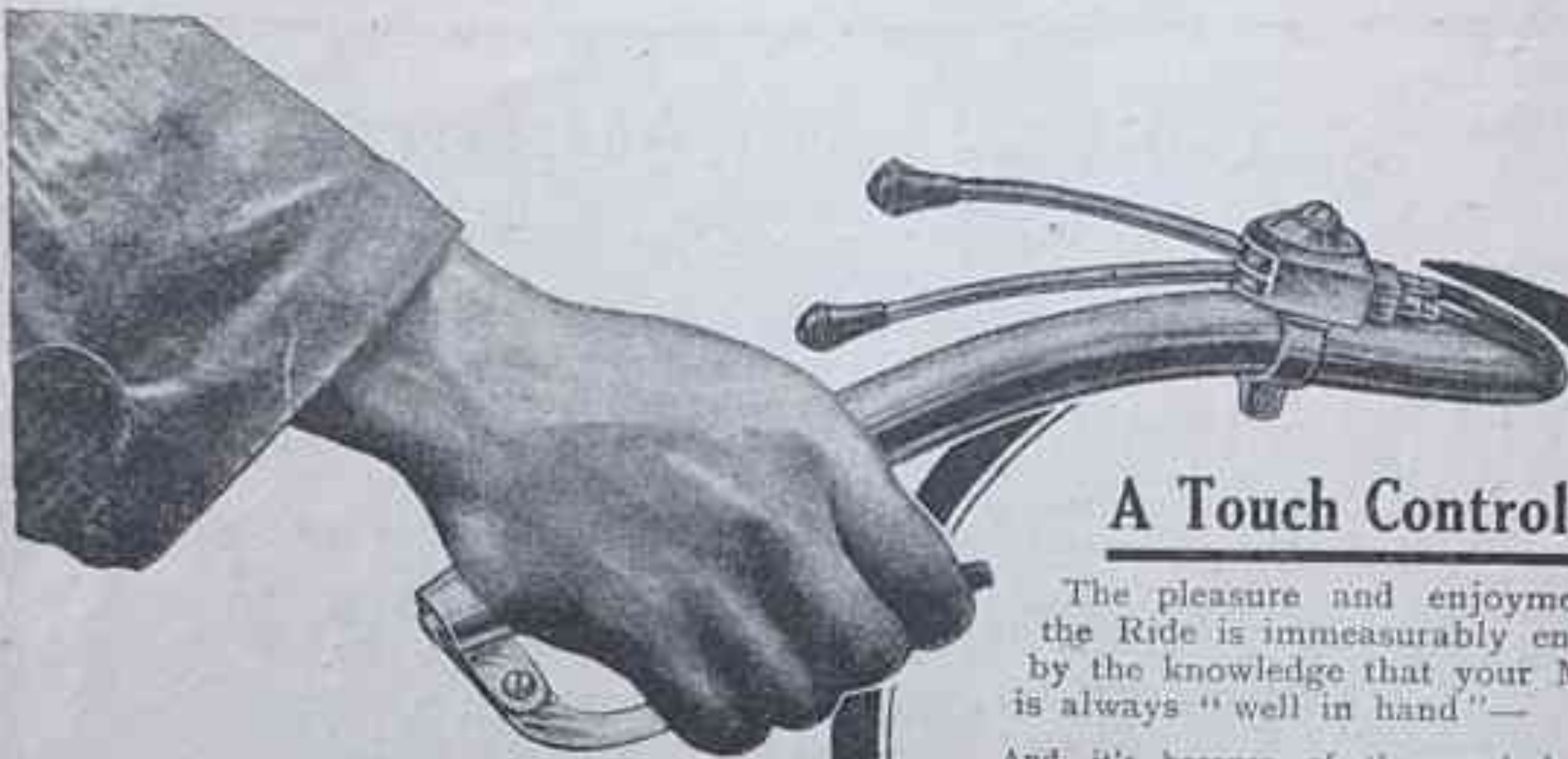
"PRODUCED as they are by a firm of the widest experience, they impress us as being of sound common-sense design, and of such construction that there is every promise of great satisfaction on the part of the user. We understand that shortly several Precision-engined 'big-twin' cyclecars and motorcycles will be offered to the public." —*The Motor Cycle*

"The Same as You can Buy."

F. E. Baker, Ltd., The Precision Works, King's Norton, Birmingham.



Godbolds.



A Touch Controls !

The pleasure and enjoyment of the Ride is immeasurably enhanced by the knowledge that your Machine is always "well in hand"—

And it's because of the marked Efficiency and absolute Reliability in manipulating the Mounts' complete Control that the "BOWDEN, Tyseley" Fitments have become famed and used the world over.

BOWDEN BRAKE Co., Ltd.,
Tyseley, BIRMINGHAM.

Bowden, Tyseley.

Designed by riders for riders

ALECTO

TWO-STROKE

SPECIAL FEATURES.

THREE PORT ENGINE with exceptionally large Ports. LARGE COVER to TRANSFER PORT for Facility of Cleaning. TWIN EXHAUST MANIFOLD. ALUMINIUM ALLOY PISTON, fitted THREE RINGS, and FLOATING GUDGEON PIN. CON. ROD and CRANKSHAFT, H.T. Steel Forgings, Big End, fitted die-cast white metal bearing, split to take up wear. Heavy car size, self-aligning bearings to Crankshaft, and die-cast brushes to retain compression. Crankcase (Aluminium), well designed and proportioned to withstand stress. Silencer (Cast Aluminium), of exceptionally large size, which, together with the large size Exhaust Pipes and Tail Pipe, gives quiet running and causing no back pressure. Engine Cradle carries Silencer and Footboards, and is specially designed to eliminate strains from Crankcase.

Ask your Agent for particulars.

Add your name to our waiting list for early delivery.

CASHMORE BROS.

(Manufacturers of the "ALECTO" Two-stroke),

ZOTA WORKS, BALHAM,
LONDON, S.W.12.

ALECTO $3\frac{1}{2}$ h.p. Two-Stroke.

SPECIFICATION.

76 by 76 Engine, nominally rated as $3\frac{1}{2}$ h.p.

FRAME: Best Weldless Steel Tube, giving low saddle position.
FORKS: Brampton Biflex (or Druid, at our option).
ENGINE: "Alecto" made throughout in our own works. Bore, 76. Stroke, 76.
Best Materials and Workmanship throughout.
BRAKES: Bowden Front, Foot-operated rear on belt drum.
CARBURETTER: A.M.A.C., Special 2-stroke.
MAGNETO: C.A.V.
BELT: ⅞-inch Dunlop.
SADDLE: Brooks B.180.
TANK: For Petrol and Oil, and fitted drip feed lubrication.
WHEELS: 26 by $2\frac{1}{2}$ inches.
TYRES: Dunlop Heavy, Rubber studded.
Set of Tools and Pannier Bag, Inflator and Clips.

£83 - 7 - 0 Retail.

Places of historic interest—

the once "stately homes of England" and the atmosphere of peace and tranquility which pervades these remains of ancient castles form a pleasant and healthful change from the rush of city life and business. You can save time, trouble, and it is more economical to take your pleasures on a reliable B.S.A. Motor Bicycle and Sidecar, enjoying the "getting there" equally as much as the time you spend at your destination. Thousands of satisfied riders of B.S.A. Motor Bicycles demonstrate daily the excellent service and popularity of B.S.A. mounts.

Fitted with a

B.S.A. COUNTERSHAFT THREE-SPEED GEAR

you are certain of sufficient power and absolute reliability on the most difficult roads.

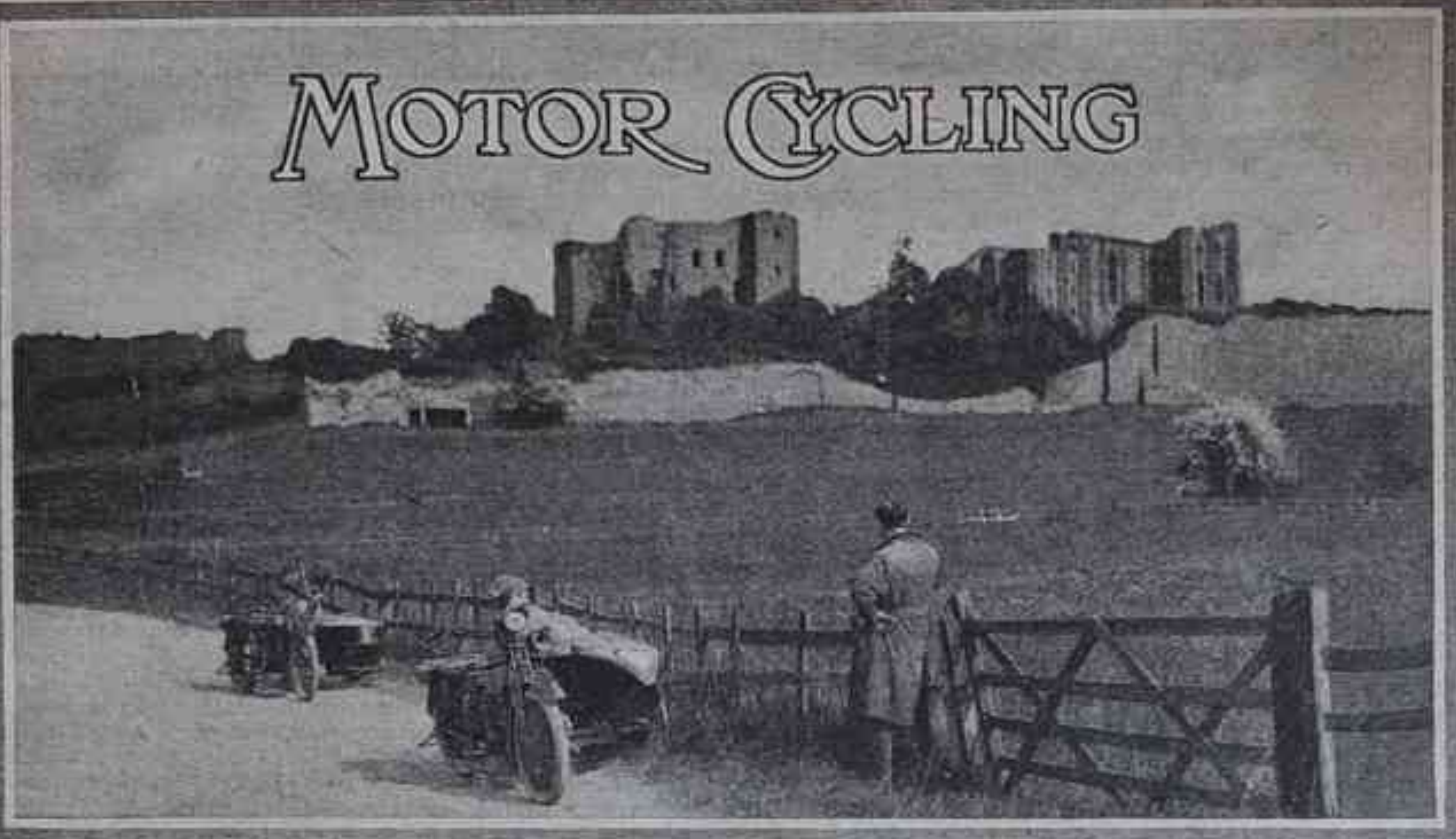
B.S.A.

MOTOR BICYCLE

Send for Illustrated Catalogue.

THE BIRMINGHAM SMALL ARMS CO., LTD.,
SMALL HEATH, BIRMINGHAM.

MOTOR CYCLING



A pretty view of Kenilworth Castle.

"EXPERT" *versus* "GENERAL."

Anomalies Which Arise from the A.-C.U. Definition.

THE competition season is drawing to a close and, as usual, it has provoked much discussion on the merits and demerits of various forms of trials and tests. The interest taken in competitions is very general and does not rest simply amongst the sportsmen. It affects the novice and the prospective motorcyclist, while this year even the general public have displayed extraordinary interest in any sporting event calling for the ascent of a freak hill. The crowds at the Old Wyche cutting at Malvern, at the various speed trials and hill-climbs, and all along the route of the classic London-Edinburgh run were phenomenal, and it was evident that they took a lively interest in the proceedings.

When the "Experts" Fail.

All this augurs well for the future of the pastime, but in the competition world there is one point which is at present being discussed wherever club members and sporting riders congregate. This is nothing less than the classification of riders into the two classes, expert and general, and the anomalies which arise therefrom. For example, it often happens that at a hill-climb riders in the general class make better time than do the experts. Are the experts, then, to be awarded prizes for themselves as a class, although being beaten by the generals? Surely this was never intended, for we take it that the classification was introduced in order to give sporting amateurs a chance of winning rewards, and not to present expert riders with consolation prizes when beaten by the amateurs. Surely awards in the expert class should only be given if better performances are made than in the general class.

Concrete Examples.

Let us consider a few possible cases, first, when the results come out as follow:—1 General, 2 General, 3 General, 4 General, 5 Expert, 6 Expert, 7 General. In this case one imagines that riders 1, 2, and 3 only should have rewards, according to the number of awards given. Although being first and second experts, 5 and 6 should not receive awards, since they have been beaten by the general riders. If we imagine that the number of riders in this event was large, and that five prizes were given, then the fifth prize should not go outright to 5, but should be duplicated, 5 receiving one and 7 receiving one also, since he is the fifth general rider. Supposing that there were six prizes and that 8 happened to be a general rider the same procedure would happen, but if 8 were an expert then 6 alone would be entitled to the prize, and 8 would not receive one. These suppositions really cover every case, but to make the matter clear, let us consider the following results:—1 Expert, 2 General, 3 Expert, 4 General. Rider 1 naturally receives first expert prize and 2 the first general prize, both awards probably being gold medals. Now 3, although second expert, has been beaten for actual second position by a general rider and, hence, should not have a second, but a third-class, award. But 4, being only the second general has a second-class award.

As the classification is at present worked, 1 and 2 would each receive first-class awards and 3 and 4 would each have second-class awards. In our first list of results 5 and 6 would be entitled to first and second-class awards respectively, as being first and

"Expert" versus "General" (contd.).

second experts. And this, although beaten by four general riders! Surely the suggested working is preferable, and in such a case would be preferred by 5 and 6 themselves.

Another anomaly may creep in. Owing to clashing of dates, or the sudden withdrawal of trade entries, a competition may be but poorly supported and expert riders may not be present at all, while even the best of the general riders may be absent. In this case some general rider of but mediocre quality may find at the end of the day that he has blossomed into prominence by qualifying as an expert. His satisfaction may last for a considerable time, but when he finds no more awards coming his way he may begin to wish he had stopped in the general class. He might not have won any awards then, but there is to many people more satisfaction in being, say, fifth general, than fifteenth expert.

Some definite ruling on the working of the qualification is badly needed, and when the A.-C.U. competition committee has recovered from the physical and moral effects of the Six Days perhaps they will give the matter the necessary attention. At the same time some ruling on the number of awards should be made. It is very general to announce that unless six entries be received the class will not be run, but often enough it is run with only four entries. In that case a second award may, or may not, be given, according to the financial standing of the club prize fund. If the entrants are not notified some days previous to the event that the class in which they have entered will not be run owing to lack of entries, and their entry fee returned, then the class should be run off. With regard to the award of a second prize, this should be given if, say, four entrants compete. In the event of a walk-over the first prize should still be given. The award should not, however, be counted for the expert, or general, qualification.

GRAPHITE AS AN AID TO LUBRICATION.

IN his study of the lubrication problems of internal-combustion engines, the writer has not heard, or seen, emphasized the undoubted fact that graphite, as prepared, and sold, for use with oil in power cylinders is an excellent contributor to friction and wear reduction.

An elementary knowledge of the theory of lubrication will convince one that graphite alone cannot act as an efficient lubricant. A large number of racing-car drivers in America consistently use graphite mixed with oil in their engines, and this alone is almost conclusive evidence of the utility of graphite as an aid to lubrication.

The writer has some experience of the use of graphite mixed with oil in the lubrication of a single-cylinder motorcycle. On dismantling the cylinder, the effect of the graphite is most obvious. The cylinder walls and piston have a glossy black and smooth appearance. This is caused by the flakes of graphite adhering to the bearing surfaces, which the mixed lubricant reaches. At high temperatures steel has an appreciable affinity for carbon. Graphite is pure carbon and is prepared for the use of internal-combustion engines in small, silky, scale-like formation.

The reason for the friction-reducing effect of graphite is that the minute irregularities of the bearing surfaces become, not entirely, but to a great extent, built up and overlaid by a layer of graphite which is smoother, and consequently less friction-producing, than any metal bearing surface can be. Thus, in place of the metal bearing, the layer of graphite coating the bearing is worn by friction, which is never entirely absent in an internal-combustion engine. The coating of graphite on the bearings is constantly renewed, and takes the brunt of the wear, also assisting the lubricating oil to overcome friction.

Graphite as prepared by the best manufacturers can in no wise harm an engine, and, having the property of not adhering to itself, cannot combine to make thick layers, or balls, which would, of course, be harmful.

The transmission, hubs, gearbox, etc., can also be lubricated with oil or grease mixed with graphite. Here again a more efficient lubrication results. L.S.

A newcomer, the Overstone, which will be obtainable only through Rudge-Whitworth depots. It is equipped with a J.A.P. engine, Druid forks, and Albion or Burman gear. The price is £57 10s. A two-stroke model will also be marketed, fitted with a 2¾ h.p. Villiers engine, and priced at £54 10s.

MOTOR CYCLING

The Original Motor Cycling Journal. Founded in 1902. New Series Commenced 1909.

Written, Edited and Illustrated by a Staff of Practical Motor Cyclists.

Conducted by EDMUND DANGERFIELD.

Proprietors—TEMPLE PRESS LTD., 7-15, ROSEBERY AVENUE, LONDON, E.C.1

A Competition Anomaly.

At the present moment the Auto-Cycle Union's definition of "expert" and "general" riders leaves much to be desired, and the article which appears on an earlier page is well-timed. To become an "expert" a rider has to win two first-class awards in open competition; but all awards won prior to the war are disregarded, and an expert is therefore a rider who has won two of these awards during the 1919 season. This in the first place seems altogether unfair. "Once an expert, always an expert" is a reasonable motto, and it is difficult to understand why a lapse of five years should allow a pre-war "expert" rider to compete in "general" classes. Many men who, in 1914 and previous years, won large numbers of prizes in open reliability trials, speed trials, and hill-climbs, are this year competing in "expert barred" classes along with a number of genuine amateurs. Apart from this side of the definition comes the question of two "wins" placing a rider in the "expert" classes only. Open events differ enormously as to the number of competing machines, and whereas, in our opinion, first place in two events in which there are some 20 starters should certainly cause a rider to be classed as "expert," similar wins against but two or three competitors cannot come under the same category. An extreme case of the latter type has recently come within our notice. The rider of a scooter, who until a month or so ago had never entered a competition, has now ridden in two speed trials. In each case, although several machines were entered, every one failed to compete except this one rider. He has therefore ridden over the course and received a first-class award in each event. Had he driven at five miles per hour the result would have been the same, and although, to all intents and purposes, he has never ridden in a competition in his life—never having had any competitors—he is classed as an "expert" rider. Yet at one of these meetings a motorcyclist, who in years gone by held many world's records for speed at Brooklands, was competing in "general" classes, by reason of the fact that, since the war, he has not entered for competitions. The old system of "amateur" and "trade" riders has been abandoned by the A.-C.U. owing to the almost unlimited scope that it gave to the "shamateuring" fraternity. Even that system was preferable to one which allows record holders to compete in "expert barred" classes, and turns more or less unskilled riders into experts. It is doubtful if a solution to this difficulty, that is absolutely fair to all riders, will ever be discovered. But we are convinced that, after due consideration, the A.-C.U. will be able to decide upon something more satisfactory than the present inefficient system.

To Prevent Profiteering.

When the Profiteering Act first came up in Parliament, motorcyclists naturally wondered whether it would have any effect on the high prices being asked for second-hand motorcycles. Owing to the vague wording of the Act and the uncertainty in everyone's mind as to exactly what profiteering is, it is rather doubtful if the motorcycle market will be affected. It is good news, however, to hear that the Cycle and Motorcycle Manufacturers and Traders Union, Ltd., have been studying the question of high prices prevailing, and intend, if possible, to take action to prevent profiteering. We do not see how they can control second-hand prices, but it is with the idea of preventing new machines being sold at above list prices that their action will be welcomed. We have heard of many cases where premiums have been paid by private owners in order to obtain a new machine out of their turn, or, what comes to the same thing, agents selling new motorcycles at a price above that listed by the manufacturers. This is undoubtedly profiteering, and the Manufacturers' Union can be relied upon in the future to see that agreements between manufacturers and agents are so worded as to prevent this being done

The Incompetent Repairer.

The article under this heading which appeared in last issue has already resulted in a flood of correspondence from readers who, for the most part, give specific instances of bungled repairs and inflated charges of which they have been the victims. A cursory examination discloses the interesting fact that in nearly every case the concern complained of is of recent establishment. The deduction is obvious. During the war numbers of men, many of whom had never handled a tool in their lives, joined the various technical corps, being attracted by the prospects of higher pay and a more interesting life. A year or two in the R.A.S.C. or the R.F.C. has seemed to many sufficient excuse to justify them considering themselves mechanics, even their army work has only been of the most menial order. Demobilized, many of these incompetents have utilized their gratuities to establish themselves as motor mechanics. Altogether the position is most unsatisfactory, and while we hesitate to counsel the boycotting of new garages (many of which are undoubtedly reliable) the only safe course seems to be to patronize the pre-war repairer with a sound reputation.

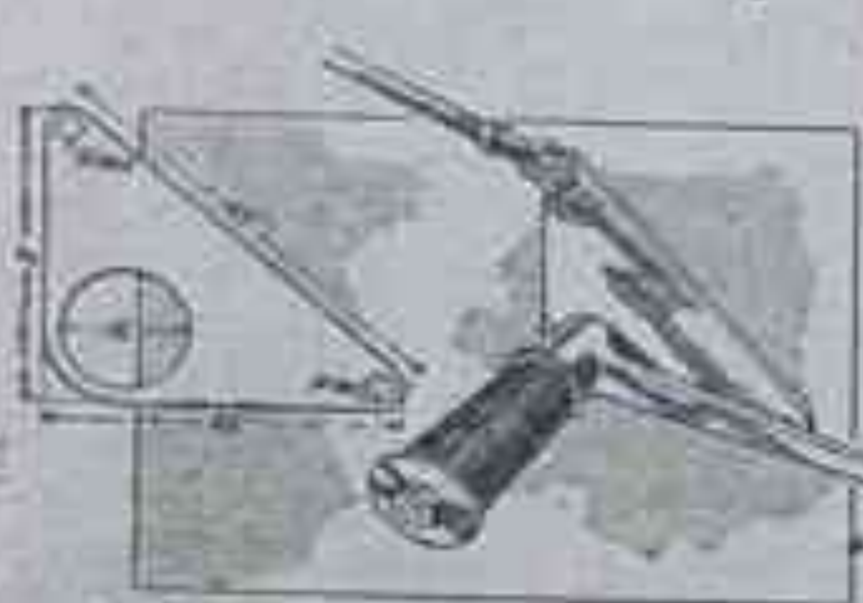
THE PRACTICAL PAGE.

Devices by Means of Which You Can Obtain More Enjoyment From Your Machine.

Contributions to this page are invited. A "Motor Cycling" Ten Shilling Note franking the purchase of goods to this value from any advertiser in our pages, is forwarded to the sender of every description which is utilized.

A Brake Alteration on a Douglas.

MY 1914 Douglas had the brake fitted on the forward footrest, which resulted in one's leg being knocked against the carburetter each time the brake was sought in a hurry. To remedy this I made an angle plate from ⅛ in. steel and drilled as illustrated. This was then put on the



A Douglas brake adaptation.

brake pedal and secured to the bolt which previously held the brake rod. The rod was next cut and tapped to the length required, and bolted to the top corner of the angle plate. The result is a thoroughly strong and reliable brake, always handy for use.—(A.C.D., 21, Ullswater Road, West Norwood, S.E. 27.)

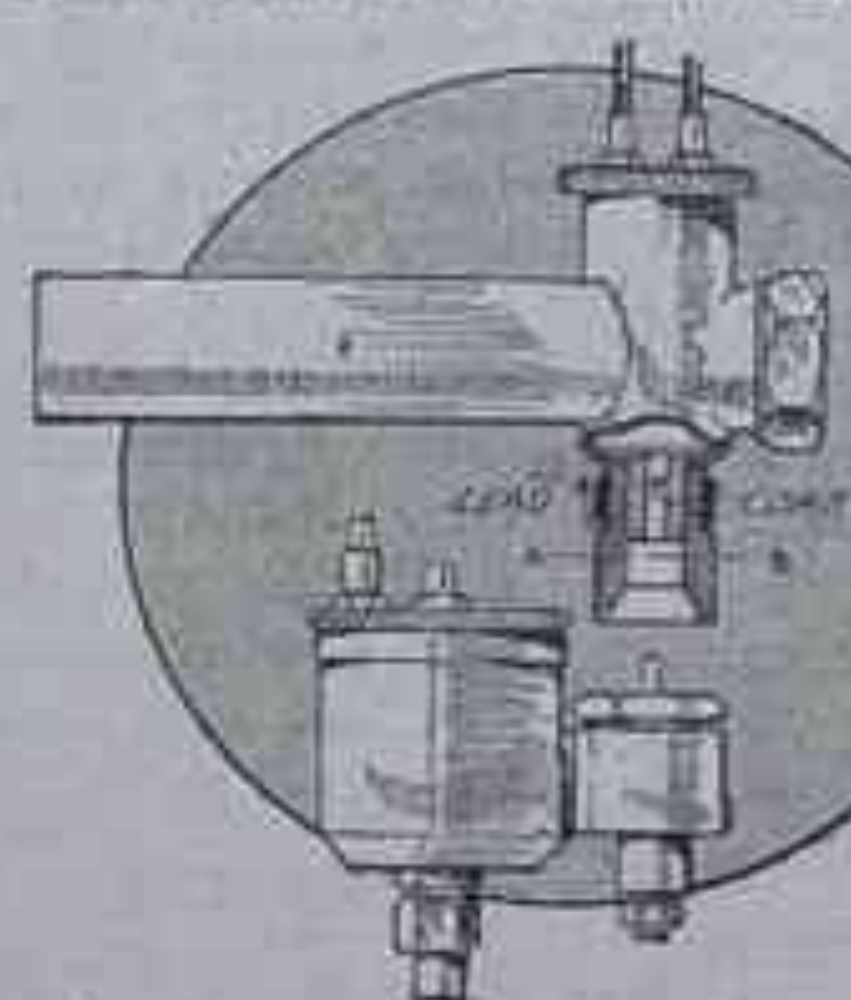
A Speedometer Tip.

ILLUSTRATED is shown a device for so fitting the front wheel drive of a speedometer that it does not interfere with the removal of the wheel. All that is necessary to make the clip is a piece of flat iron, about ¾ in. by ⅛ in. This should be bent at right angles and shaped to fit on the front forks. With the aid of a rear plate, also similarly shaped, and a couple of two small bolts the attachment is complete.—(F.M., 15, Oxford Place, Doncaster.)

Improving an Old-type Carburetter.

AN old type of B. and B. carburetter was greatly improved by sawing off the bottom part of the body at AB, as shown in the sketch. This allows the top of the jet to come up level with the bottom of the mixing chamber. A strip of lead was bent round the neck of the body as a packing piece for the float chamber connection to grip. A cork, with a hole slightly larger than the outside diameter of the jet was then pressed into the choke tube. The carburetter was then re-assembled with a slightly larger jet, thus converting it to the "straight through" type. Additional efficiency was also obtained by fitting an extension pipe to the carburetter air intake. Thus improved, the carburetter gave increased power, speed, and flexibility.—(E.P.H., Dare, near Sheffield.)

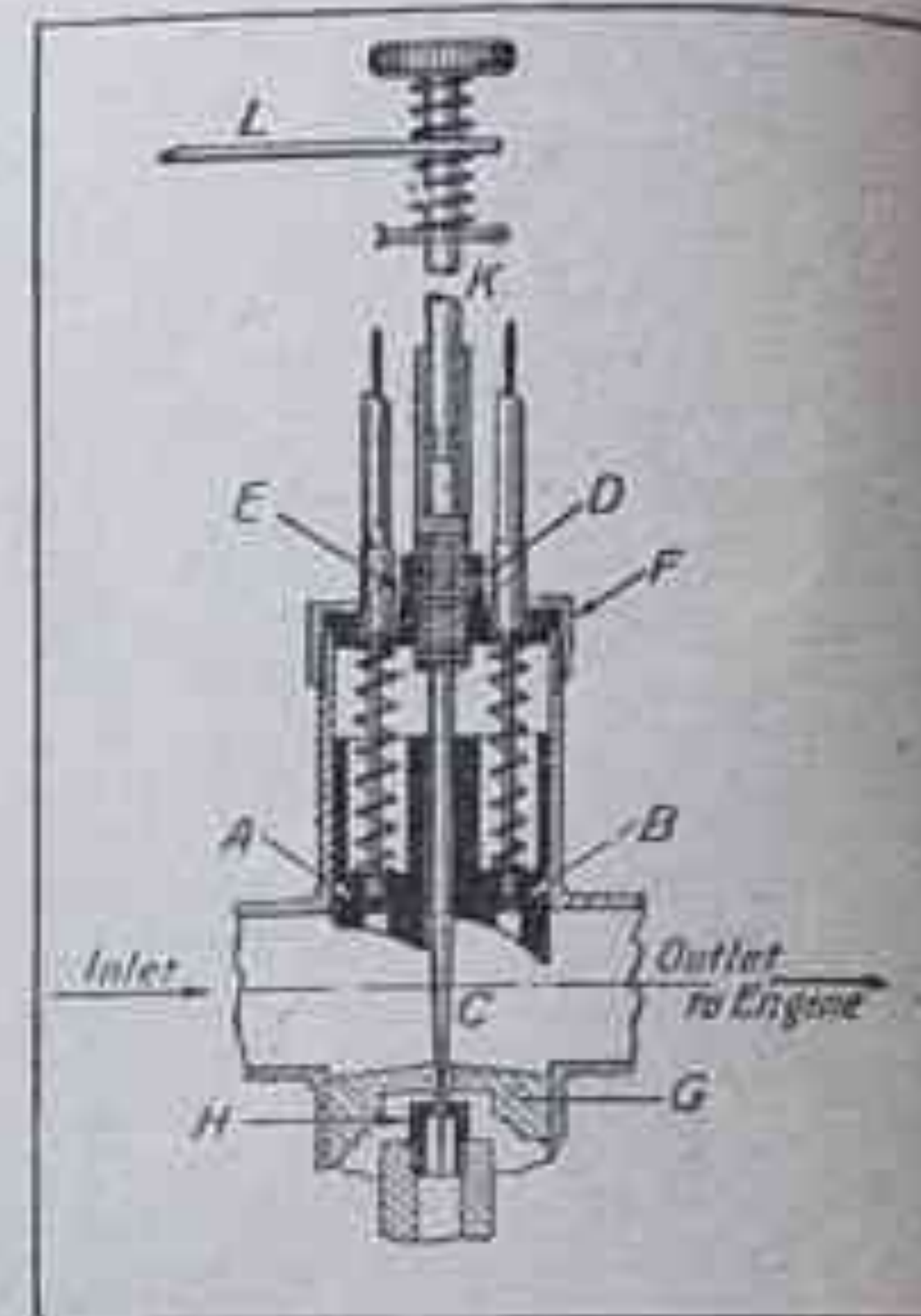
To prevent speedometer drive disarrangement.



Improving a carburetter.

A Variable Jet.

HEREWITH particulars of a device I have fitted to the A.M.A.C. carburetter on my 2¼ h.p. Ixion two-stroke with very satisfactory results. The reason for employing the design shown is that it obviates the necessity of a petrol tight gland, which must be used if the needle is operated from below the petrol level. A and B are the air and throttle slides respectively. They are constructed with slots cut in their inner surfaces to clear the needle (C), which is raised or lowered by means of the screwed portion (D). This runs through the cap (E), the original securing ring (F) being retained. The centre hole in the sprayer (G) is enlarged to allow the needle to pass freely through it into the jet (H), which is .050 in. diameter. The operating rod (K) is carried by the aluminium bracket (L), the other end of which is secured under the petrol tap. With the exception of enlarging the centre hole in the sprayer, no alteration has been made to the existing carburetter components, so that if desired the carburetter can be reverted to standard in a very few minutes.—(C.H.C., Brook House, Great Wyrley, near Walsall, Staffs.)



An ingenious variable jet.

A Clever Conversion.

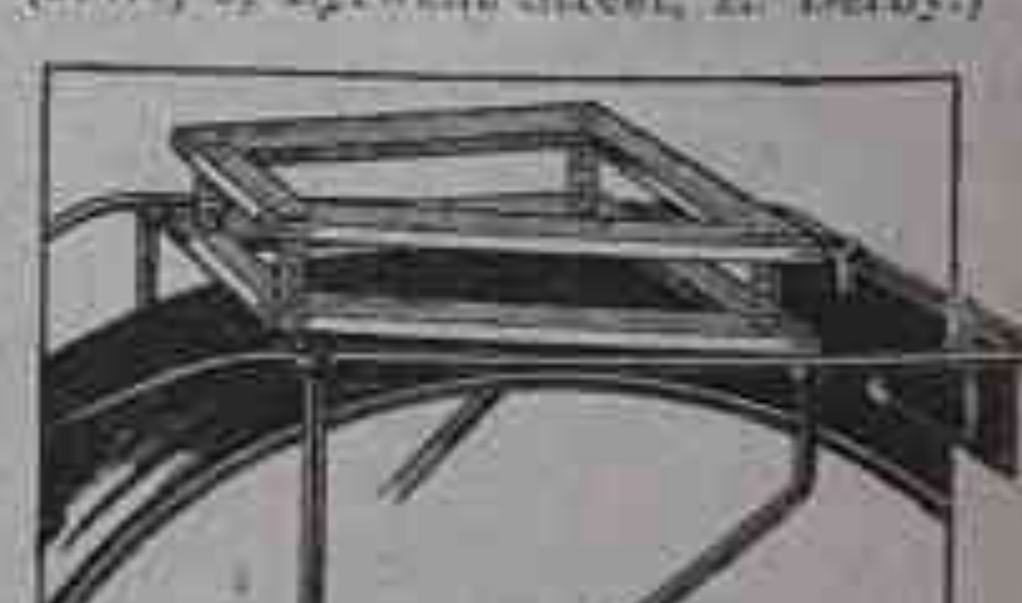
A VERY comfortable and efficient spring pillion seat can be made out of a tennis racquet press, which, being made of ash and dovetailed with metal plates at the corners, is both light and strong. The four corner bolts and wing nuts are removed, and four springs, similar to those used in a bicycle saddle, fitted in their place. These are secured by eight small bolts and nuts. To be successful the springs employed should not be too stiff. The seat was completed by stretching canvas tightly across the framework and then stuffing with horse hair. The total cost of the seat was 2s., exclusive of the press, which was an old one. A new press, however, can be obtained for about 2s.—(E.C., Tunbridge Wells.)

A Useful Brake Tip.

I had a brake block pull out of its shoe on an old pattern Triumph, and as I was away from home could not replace it, and was somewhat at a loss as to what to do. However, I found that a piece of spare ⅞ in. belting exactly fitted the shoe, and I have found it so satisfactory that I have not troubled to replace it.—(J.W., Marlboro', Kingsway, Gerrard's Cross, Bucks.)

Damping Out Cylinder Ring.

WITH a view to obtaining a quieter engine, I tightly packed a piece of sheet asbestos between two of the cylinder fins, near the valve chambers. At the time, the effect of this was hardly appreciated. On dismantling the engine, however, the packing was discarded, and a trial run after re-assembling proved beyond a doubt that the packing had been a really effectual means to the end desired.—(J.W., 9, Derwent Street, E. Derby.)



A pillion seat from a racquet press.

THE ALECTO $3\frac{1}{2}$ h.p. TWO-STROKE.

A Newcomer of Much Promise.

WITH the success of the smaller two-strokes an accomplished fact, it is but a step to the creation of something bigger. The Alecto $3\frac{1}{2}$ h.p. two-stroke is the latest addition to what is rapidly becoming a new class. The Alecto is manufactured by Messrs. Cashmore Bros., of Hildreth Street, Balham, London, S.W., and during a recent visit to their works we were able to inspect this interesting machine. In rating their 350 c.c. two-stroke engine at $3\frac{1}{2}$ h.p., Messrs. Cashmore practically issue a challenge to the $3\frac{1}{2}$ h.p. four-stroke, which has the advantage of an extra 150 c.c. It will be, therefore, seen that the firm do not lack confidence in their production.

Engine Details.

The engine, which is made throughout at Messrs. Cashmore Bros.' works, is of 76 mm. bore and 76 m.m. stroke, and is of the usual three-port type. Twin pipes of $1\frac{1}{4}$ in. diameter conduct the exhaust to a large cylindrical silencer, 9 ins. by 5 ins. The final outlet is by means of a long tail pipe $1\frac{1}{4}$ in. in diameter. It is interesting to note that the silencer has a capacity three times greater than that of the cylinder. The transfer port is fitted with a large detachable cover to give access to the passages for cleaning.

The piston, which has the usual deflector top, is a Magnalium L8 casting. This is an aluminium alloy much used for aeroplane engine pistons. It is fitted with three rings, which are pegged in position, the lower ring acting as a scraper to prevent excess of oil reaching the combustion chamber.

Excellence of Material.

The connecting rod and crankshaft are constructed of 62 ton tensile steel. The crankshaft has extremely large Skefko double-row ball bearings, with additional die-cast white metal bushes to retain crankcase compression. The big-end bearing, which is split for adjustment purposes, is also lined with white metal.

Lubrication has received special attention. Oil is fed in at the inlet port, and runs down to a well formed on the top of the crankcase. From there it passes through two holes drilled in webs on the opposite sides of the crankcase to each main bearing. The mainshaft and crank web are drilled on the transmission side, and oil is conducted throughout the passage thus formed to the big-end.

Two Speeds Only.

Footboards are fitted and are secured by rods passing through an extension of the engine cradle, a construction that ensures great strength and rigidity. A Juckes two-speed gearbox, incorporating a hand-operated clutch and kick-starter, has been standardized. Other details include an A.M.A.C. special two-stroke carburetter and a C.A.V. magneto.

The machine we inspected was fitted with dropped top tube, and will be known as model A. An alternative design is being prepared, to be known as model B, which will have a sloping top tube. The frame and tank are

The piston used in the Alecto is made of Magnalium.

enamelled blue and red respectively, and provide a very attractive finish.

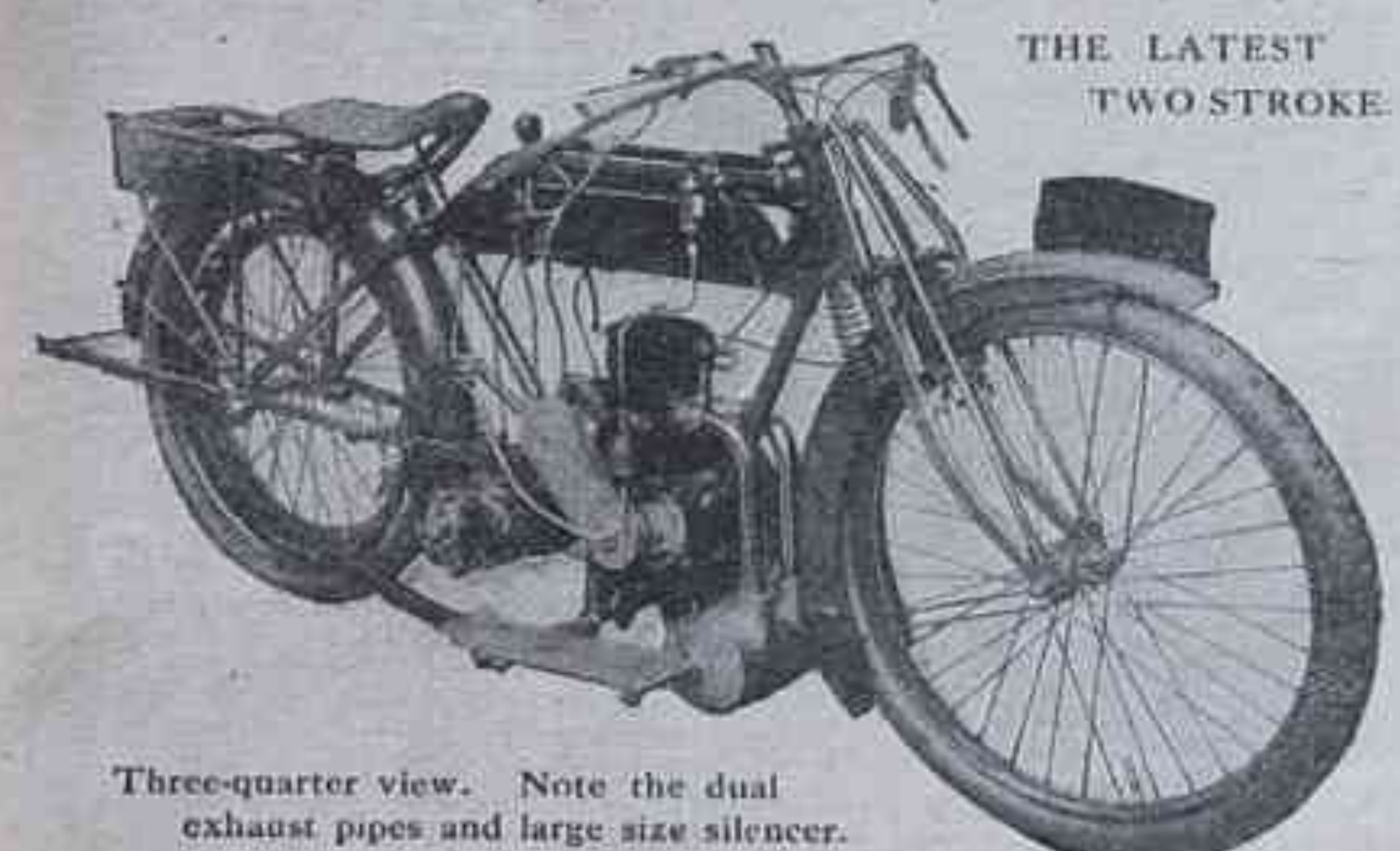
The equipment of the machine is on an unusually lavish scale, the specifica-

A demonstration of the high quality steel used in the Alecto connecting rods.

tion including Brampton Biflex forks, Brooks B150 saddle with padded top, Dunlop heavy 26 in. by $2\frac{1}{2}$ in. tyres, and Dunlop belt. The price has been fixed at £83 7s., which is not unduly high, in view of the fact that the machine possesses many novel points and is made of the finest materials throughout.

Altogether the Alecto two-stroke is a very attractive proposition, and one that should be heard a great deal of in the near future.

THE LATEST TWO STROKE.



Three-quarter view. Note the dual exhaust pipes and large size silencer.

Address Wanted.

MESSRS. J. Blake and Co., of Rodney Street, Liverpool, are anxious to get into communication with Mr. H. McCarthy, from whom they have had inquiries respecting a Henderson.

Lost!

FROM the carrier of a motorcycle a double barrel, 12 bore, hammerless ejector gun, by Watson Bros., maker's number 7931. The gun was in pieces, the separate parts being wrapped in grey cloth, and the whole in an old dark grey blanket. Will the finder communicate with Capt. A. F. Wenner, of Lake House, Sutton, near Macclesfield, Cheshire?

A Three-cylinder Three-speed Light-weight.

IN our article under this heading in a recent issue it was inadvertently stated that the Beaumont engines, manufactured by Beaumont Motors, Ltd., of 78-82, Elland Road, Leeds, were, with the exception of the 8 h.p. twin-cylinder model, fitted with three-cylinder radial engines. It should have read that the Beaumont machines are, with the exception of the 8 h.p. twin and the three-cylinder radial, fitted with a single-cylinder long-stroke high-speed engine of 75 mm. bore by 115 mm. stroke and a cubic capacity of 517 c.c. In about three weeks' time the company are producing a three-cylinder 3 h.p. three-speed light-weight with radial engine at £45.

KEEPING AN EYE ON RUNNING COSTS.

KEEPING a motorcycle log and cash book adds a great deal to the pleasure and interest of running a machine at a low cost. After all, with the present price of petrol and other commodities, it is best to do the thing as cheaply as possible.

Much is talked about doing a hundred and thirty miles to the gallon and other record consumptions of this kind, but not nearly so much is talked about the cost per mile of running a motorcycle. By using an ordinary analysis petty cash book it is quite easy to determine quickly, and at any time, the exact cost per mile, as well as the average petrol consumption. It is not a great deal of trouble to keep, and makes more interesting even such an enthralling pastime as motor cycling.

Buy a columnar petty cash book at any account book makers, preferably with a space for particulars and at least nine other columns. Starting from left to right write in the headings to the columns. The first is, of course, for the date, the second is the wide space which should be headed "Remarks and journeys." In this column can be entered all particulars of the trips, such as the route, and also any mishaps or breakdowns that may occur and repairs that have to be undertaken. These remarks prove very useful in determining whether it is time to take the engine down again, or whether it is time to oil the magneto chain and any other little attentions which make for efficient running.

Then we come to the single-folio column, which can be used to advantage for the mileage column. Every trip should be totalled up and entered, and the total of each page carried forward. Personally, I have found it convenient to head the next column (i.e., the first money column) speedometer, and to enter in it what my speedometer registers at the end of each trip.

The remainder of the columns suggest themselves, and can be arranged to suit the rider's own requirements and inclination. I have found the following give most of the data that is required. Items in which to enter the description of the expenditure, total, sundries, renewals and repairs, tyres, tyre repairs, oil, carbide, petrol, and finally a column headed gallons, in which to record the number of actual gallons consumed. This, of course, enables me to calculate the average consumption at any time.

When the headings and arrangement of the book have been decided upon, all that remains is to value the plant and make the opening entries. It is advisable to keep a blank page at the beginning of the book on which to enter up the plant, which does not come as a charge entirely on the first year. Therefore, it must not be included in the ordinary expenditure columns.

We can safely say that the motorcycle is plant, likewise all tools and accessories, such as the horn and lamps. It is a matter of opinion as to whether goggles and such like articles are plant or not, as they do not materially add to the value of the machine, but it is certain that the entire cost, if the article lasts for more than a year, must not fall on the first year. Twelve months after the date on which the machine was purchased, the book should be balanced up and the cost per mile worked out for one riding year.

For those who are not in the habit of buying a new machine every year, it is a wise thing to calculate depreciation on the plant and put a corresponding sum away for the time when it is desired to purchase a new mount. Twenty per cent. for the first year and 15 per cent. for the succeeding years gives a satisfactory result when the time to sell comes along, but, of course, with the present inflated prices and inevitable drop, it is practically impossible to allow sufficent as in the ordinary way. D.W.

TO PREVENT OVERHEATING.

OVERHEATING in air-cooled internal-combustion engines is a problem which has engaged the attention of most designers, and been the subject of much controversy.

In the first place overheating is an expression which lends itself to many interpretations. A large majority of riders will tell you that an engine is overheating when it rises to such a temperature that it is noticeably losing a big percentage of its power. This, of course, is perfectly correct, but how many riders of low-powered machines would believe you if you were to tell them that their engines were overheating after ten minutes ordinary running? Yet, I maintain that all air-cooled engines under 5 h.p. after only ten minutes running lose a minimum of 5 per cent. of their power, which steadily increases to, in some cases, 40 per cent.

This loss of power naturally decreases according to the h.p. of the engine, but, even so, the highest-powered air-cooled motorcycle engine on the market loses an appreciable amount of power.

It has been perfectly obvious for years that the lower-powered air-cooled engines run at much too high a temperature, especially two-strokes; but no real attempt has been made to combat this. It is true that some manufacturers have made half hearted attempts, in the shape of fancy and especially-deep cooling fins, but nobody can honestly say that much improvement has been made.

Our contributor's idea in diagram.

Air-cooling would be perfectly satisfactory if only a draught would pass through the fins. The amount of draught that passes through them may be gauged by the amount of air that blows on one's face at an average riding speed.

Picture, then, the average lightweight two-stroke travelling at 15 m.p.h. The engine revolutions are high in comparison to the speed obtained, while all the draught it gets is about as much as one uses to blow a candle out. My statement is borne out by the fact that it is no uncommon thing for the sparking plug of a two-stroke to become incandescent.

At the present time I am perfecting an invention of my own which is calculated to keep a strong draught circulating round the fins at all speeds, including when the machine is at rest with the engine running, as often occurs in traffic. The device is to be tested on a 2¼ h.p. Levis with five badly-broken fins.

In its present form the device is only suitable for two-strokes, but, in the event of its being a success, it is hoped to adopt it for all single-cylinder engines, and, eventually, twins.

L. MOON.

The hard-working officials and observers.

Bad Road Surfaces Provide Severe Mechanical and Physical Tests—Complete Account of the Classic Event of the Season.

Llandrindod Wells,
Sunday.

TO-DAY saw the arrival of the majority of the machines for the Six Days' Trial. Everyone has experienced trying weather on their journey down, and those who have completed their final adjustments are busy cleaning up. There are several alterations to the official programme, J. R. Lane (Douglas) and W. Elce (Zenith) having scratched. A last-minute entry is W. R. Merral (8 Morgan), who is riding as No. 58. J. Baker (Scott) has been transferred to Class D, his engine being above 500 c.c., whilst S. Hall (8 Morgan) comes into Class K, his engine being smaller than was announced.

The Trial will create a record for the number of Pressmen present. No fewer than three editorial men are using Blackburne engines—two 4 h.p. solo machines and one a Blackburne-engined Morgan. *Motor Cycling* has a representative competing, as in the Scottish Six Days. We are thus able to report the event from the competitor's as well as from the spectator's point of view.

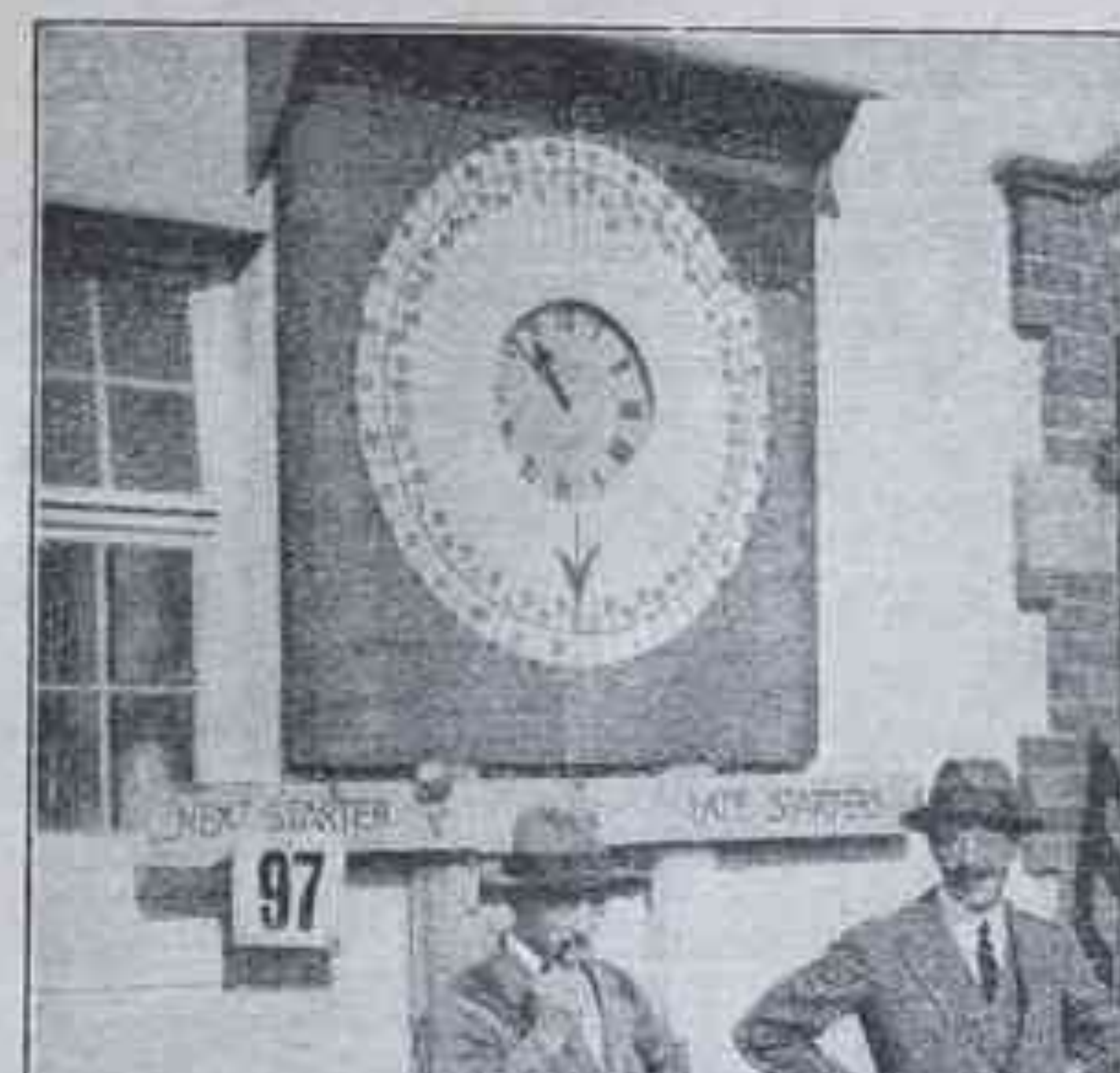
Many of the competitors are spending Sunday afternoon exploring any local hills which they are able to reach. There is not much "wind up" regarding the severity of the hills, but many express doubts as to their capability of doing well in the Consistent Driving Test, which is regarded as severe.

Many of the regulations differ from those of previous years. For instance, machines may not be started up in the depot. Competitors are started by a clock 15 minutes before they are actually due out. During this 15 minutes each morning they have to complete all necessary work on their machines. In order to prevent any tampering with machines officials will be constantly on duty in the depots.

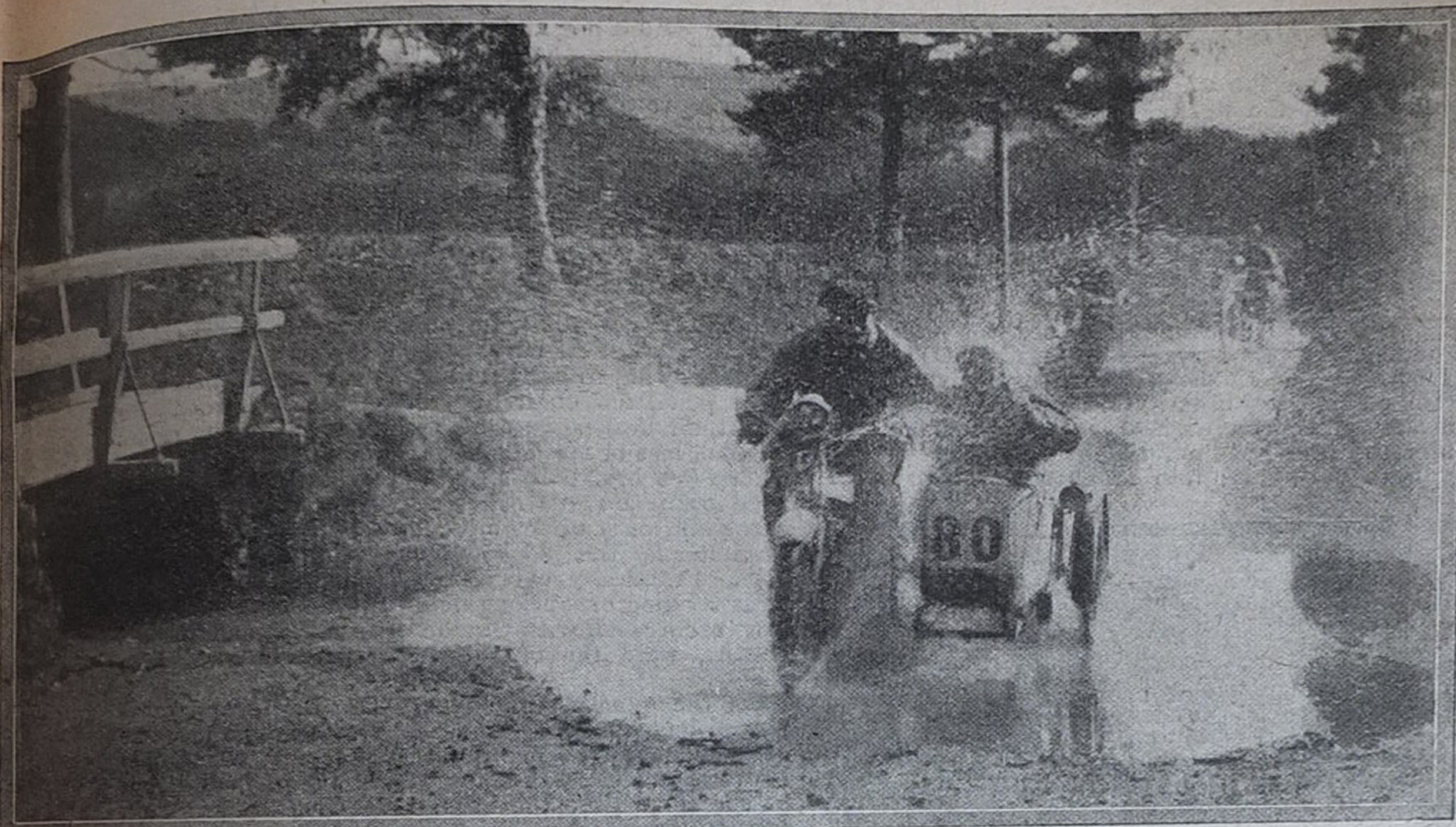
The trial has not produced so many novelties as might be expected. Among the more interesting machines are the new Royal Enfields. These are fitted with the Lucas mag-dynamo, the switch for which is mounted on the front of the tank. The petrol tank is of exceptional width and shallow, having a capacity of nearly three gallons. The front brake is also redesigned, having a substantial shoe working in a V rim, and operated by Bowden cable. The tools are carried in a compact drawer divided into compartments and fitted in the front of the sidecar.

The Clynos and Matchless machines are, of course, the new models which have already been described, whilst there are several of the new model P. and M., with band brakes on the rear wheel, operated by a ratchet lever on the near side of the tank.

The Scotts are a smart lot, T. Wood's having a new method of fork lubrication. The fork itself is, to all intents and purposes, an oil sump, and sufficient oil can be poured in for a month's use.



Mr. T. W. Loughborough and Major Dixon-Spain standing below the novel "tell-tale" clock which was used so successfully for starting purposes.



S. Sawer (Norton), taking one of Friday's water-splashes all out, followed by two solo riders.

Looking up Constitution Hill, Swansea, showing the crowd through which competitors had to thread their way.

after Garth we once more proceeded up Panne Hill for the second consistent driving test. Here were installed in state the time-keepers, and Dr. Low once more endeavoured to catch noisy machines with his audiometer, whilst many well-known powers from London and the Midlands, who had come down for the week-end, were interested spectators.

The "C.D.T.," we may mention, was the most unpopular feature in the whole trial. The original idea "to find the winner" was good. It was to make certain that machines would climb Panne Hill as slow as, and as fast as, they had done on the Monday. But when the rules insist that the variation on the two days shall not exceed so many seconds, the test becomes one of riders and stop-watches, and not one of machines. Had the officials said: "You must not go faster than X m.p.h. on the slow mile or slower than Y m.p.h. on the fast mile on the Monday, and if you can do as well *or better* on the Friday," etc., it would have been a consistent driving test. But when we see people driving to split seconds with stop-watches, the thing becomes a farce.

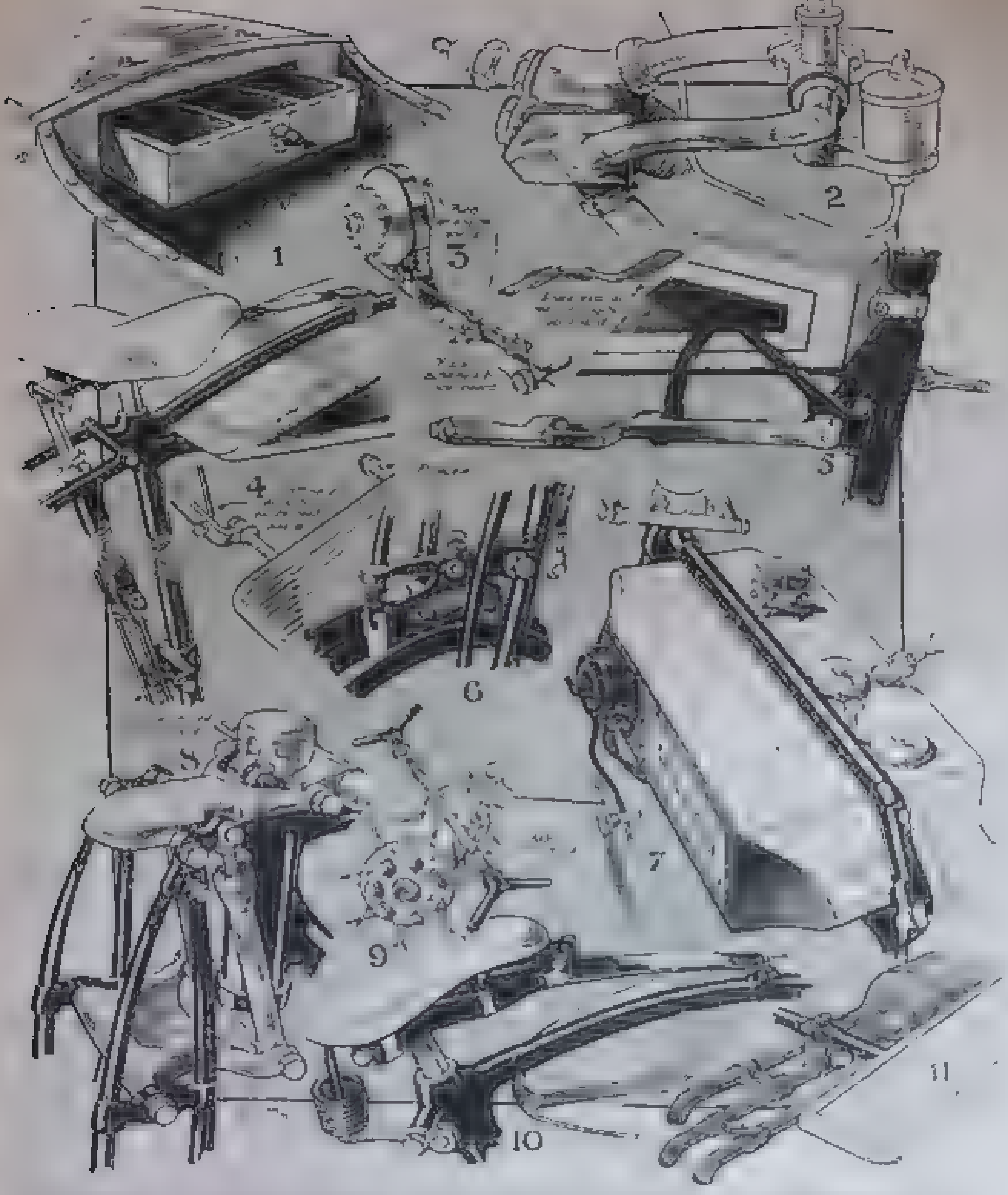
During the last 20 miles several pieces of very bad luck were experienced. Jesse Baker (Scott) suffered many punctures, and, to make matters worse, he and others went off the course owing to a girl standing in front of an arrow, which was thus not seen.

The following retired to-day:—J. Baker (Scott), tyre trouble and off course, and F. C. Townshend (Sunbeam), tyres.

On arrival at the depots all machines were locked up, and Saturday was devoted to the judging, which was completed in the evening.

With commendable promptitude the A.-C.U. officials issued the provisional results in the small hours of Sunday morning. We regret that lack of space prohibits the publication of the details of marks lost, but further comments on the great trial will be given next week.

We cannot conclude this report without expressing our admiration and thanks to all the A.-C.U. officials



NEW MECHANICAL DETAILS SEEN ON MACHINES PARTICIPATING IN THE SIX DAYS TRIAL.

1. Tool locker [illegible] 2. [illegible] 3. [illegible] Brake on the pulley on engine shaft [illegible] 4. L.M.C. [illegible] rear brake [illegible] 6. Front brake [illegible] 7. [illegible] 8. Georges Levy spring fork [illegible] 9. Georges Levy [illegible] 10. Georges Levy seat springing 11. [illegible]

Six Days' Trial (contd.)

[illegible] Watson, for once, has given up the [illegible] cylinder outfit on which he always did so well, and [illegible] and J. L. Stocks have 6 h.p.

The [illegible] team consists of J. S. Holroyd [illegible] and Watson [illegible] and [illegible]

[illegible] Rovers are the new [illegible] recently described. [illegible] of *Motor Cycling* [illegible] on a 5.6 h.p. solo, with the new Bramp[illegible] chain drive.

Sunbeams are very prominent. In addition to [illegible] amateurs have [illegible] with the trade [illegible] a M.A.G. engined outfit, and J. A. New[illegible] is riding the machine with which he [illegible] in Scotland.

The A.J.S. collection are going about their [illegible] with the usual absence of fuss, whilst the two [illegible] of B.S.A.s appear to be ready for everything. Scotts also should do well, having Tim Wood, [illegible] Wood and J. Gre, with Alan Hill as reserve.

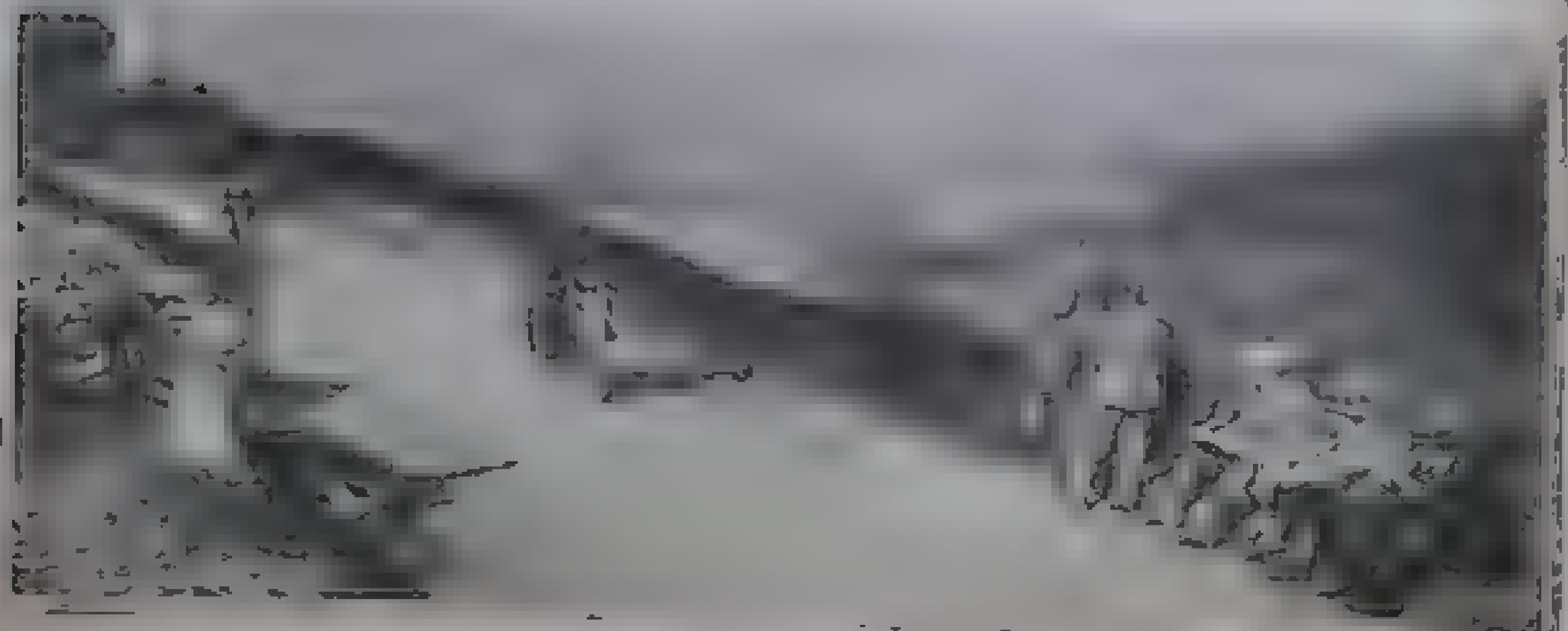
[illegible] number of Triumphs, [illegible] usual Zenith enthus[illegible] [illegible] men deserve a note. They [illegible] W. J. Chambers (B.S.A.) and [illegible] Of the big sidecar outfits [illegible] C. R. Collier has [illegible] Hardee and J. A. Hoult as [illegible] There are four big Enfield combi[illegible] of the new pattern which we described [illegible] now give detailed sketches.

The 7-9 h.p. L.M.C. is a new design, [illegible]

[illegible]

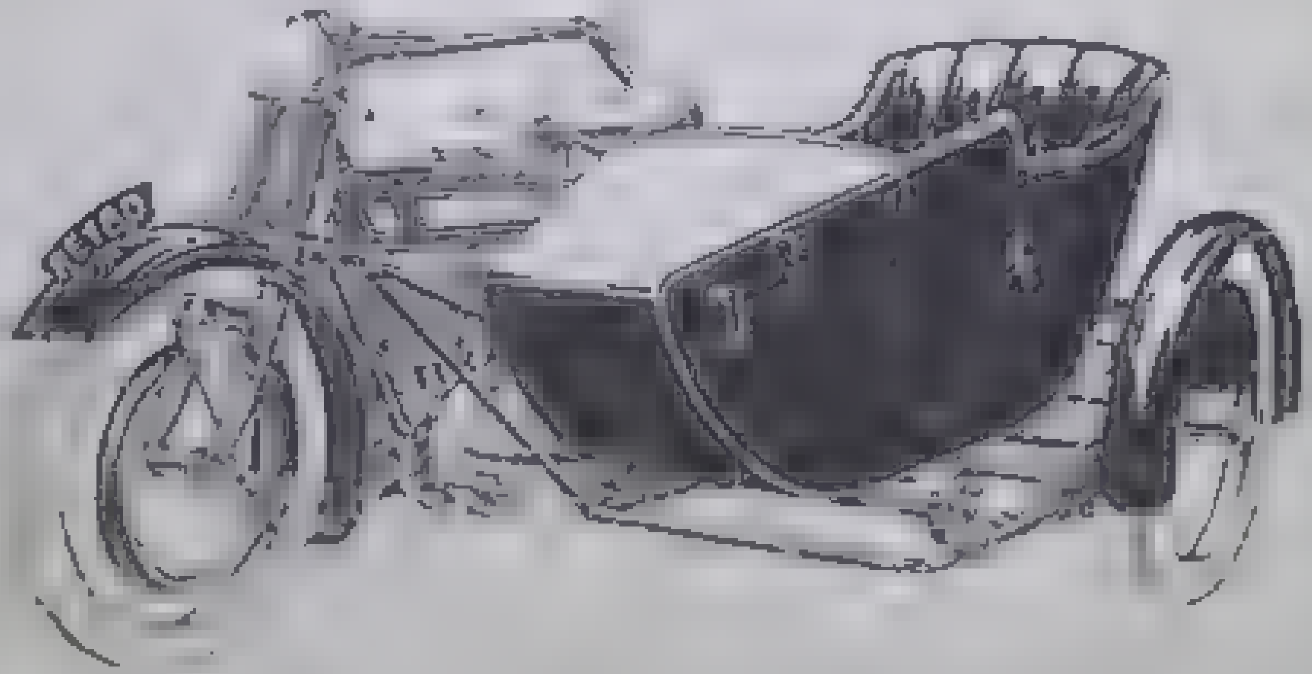
S. L. Ashby (2¾ h.p. Connaught), W. Donskin (3½ h.p. Rover), and H. [illegible]ley (3 h.p. A.B.C.) nearing Brecon.

[illegible]



CONSISTENT DRIVING TEST—FIRST DAY

Capt. [illegible] Alexander Lindsay (4 h.p. Norton) on the steep part of [illegible] Hill.



Strength.

IT is essential that a sidecar combination should be strong. It should be capable of carrying the loads to which it is subjected without danger. Being a "family" outfit there is occasionally a desire to take an extra passenger or a need for more luggage.

How good it is to be quite sure that your machine *will* carry that extra weight without inviting trouble!

And that is why riders of the 6 h.p. Royal Enfield Sidecar Combination are so pleased with their outfit—they *know* the ample margin of strength provided, and the more they ride the greater becomes their confidence and appreciation.

The ENFIELD CYCLE CO., LTD. ∴ REDDITCH.
And 48, Holborn Viaduct—————— London, E.C.1.

The Progress of the 5,000 Miles Benzole Test—The Humber Museum.

Lack of Garage Facilities.

QUITE a feature of any large city is the lack of garage accommodation in the centre of the town. Many business men rely on their machines for transit between their homes in the suburbs and their town offices, rather than have the discomfort and inconvenience of suburban train or tram services. Such garages as exist in the centre of cities are hopelessly overfilled, and their only chance of expansion would seem to be to add further floors, with an efficient lift service.

The A.A. 5,000 Miles Benzole Test.

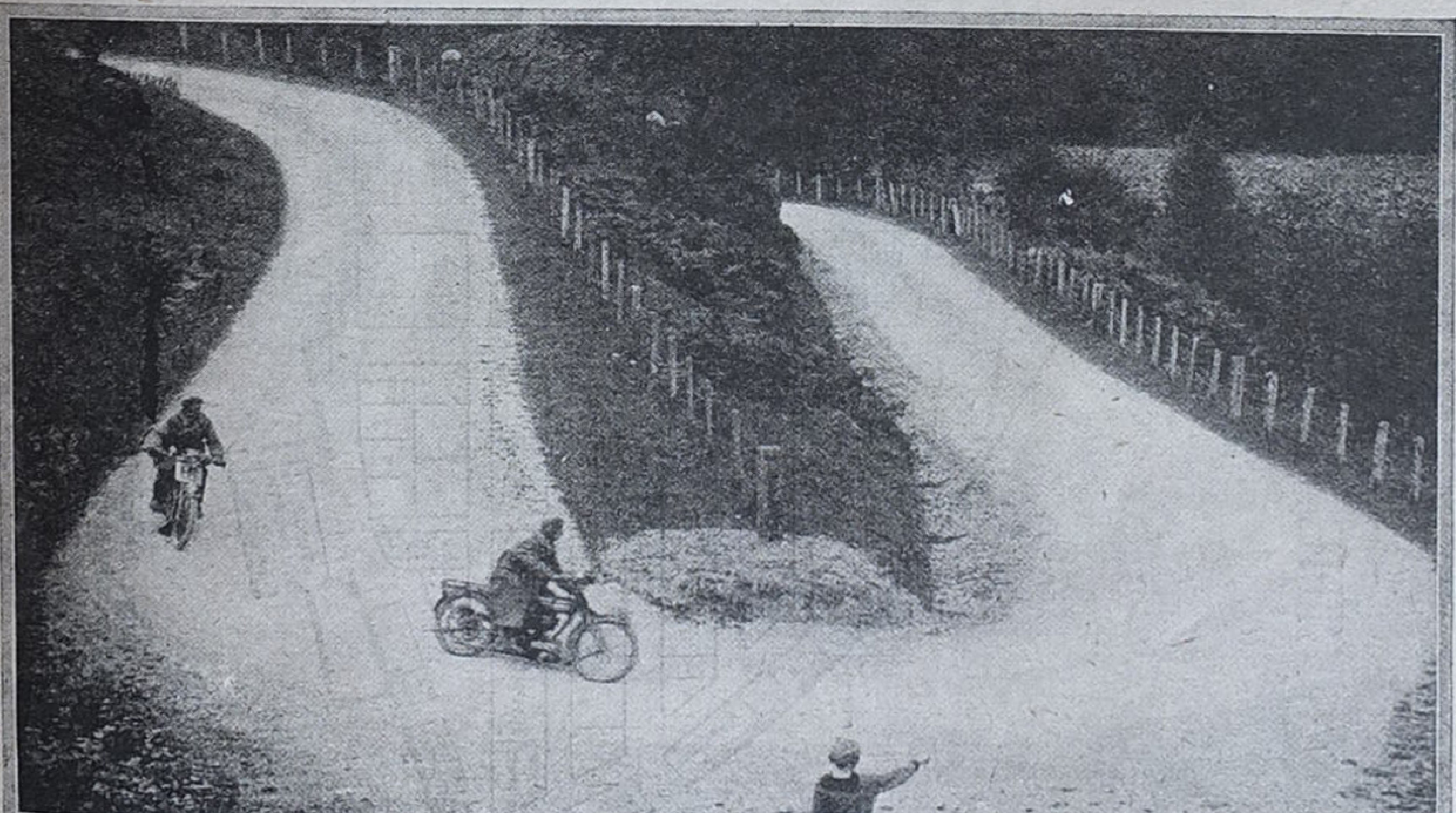
THE confidence of the A.A. in securing a 4 h.p. chain-driven Triumph combination for this severe test has been more than justified up to the present. From reports to hand, both the test combination and the sister machine have so far run with the unfailing regularity of a watch. With the exception of a very wet journey from Buckden to Leeds, the test has been favoured with excellent weather and good roads up to the time of writing. Passing through Doncaster, on the way to Leeds, heavy traffic, owing to the races, was encountered, and the journey through that city occupied an hour. These are the sort of things that tell on the fuel consumption, but, nevertheless, it is thought that the machines are averaging somewhere in the neighbourhood of 100 miles per gallon. The records so far available show that close on 800 miles have been covered in the first six days without trouble of any kind. The fuel consumption, however, has not yet been worked out by the A.A. officials, but in our next issue we hope to be able to give some idea as to what is exactly being done in this respect.

A War Museum.

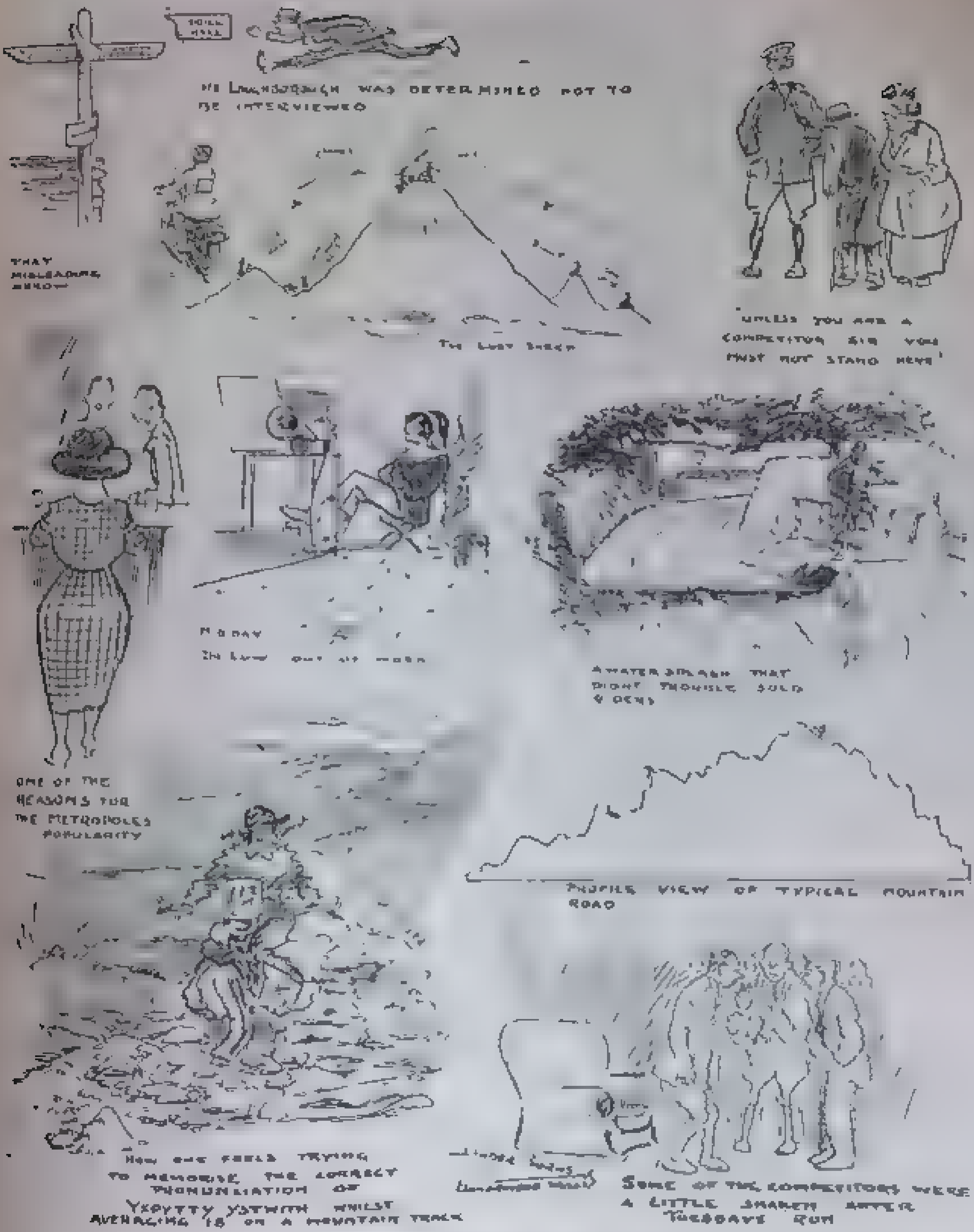
CALLING at the Humber works recently, we found the spacious hall full of interesting exhibits of the various munitions manufactured by the firm during the war. Shells, fuses, bombs weighing one cwt., and two fine models of field kitchens—these brought back vivid memories, but more interesting still to motorcyclists were two complete aero engines of BR2 type. The machined steel cylinders and the detachable combustion heads, are reminiscent of motorcycle engine design. Another fine model of an Avro aeroplane, which is at least 6 ft. across the wings, is particularly striking. But most interesting of all are two large polished wood panels, forming the firm's Roll of Honour.

Amateur Guerilla Warfare.

"THERE is a new recklessness about—obviously one of the lesser legacies of the war—which seems equally to infect drivers of all kinds of cars. Reminders of his insignificance are forced on the unhappy foot-passenger as frequently by the chauffeur of the mud-slinging commercial wagon as by the ruthless road hog on a devious motorcycle. All this, however, provides neither reason or excuse for the pelting of motors and motor drivers by small boys and youths old enough to know better. We hear too much of this kind of thing. There may be some idea of revenge and 'getting level' in the lads' minds. If so, their minds should be cleared of the idea. We cannot have amateur guerilla warfare on these lines." Extract from a leading article in the London *Daily Express*, who conclude by asking "Where is 'mother'—with that old slipper?"



Capt. Alexander Lindsay (4 h.p. Norton) and Tom Peck ($3\frac{1}{2}$ h.p. Ariel) on the hairpin bend in Glen Elan on the second day of the Six Days' Trial.



Our cartoonist shares the tribulations of the Six Days competitors in the wilds of Wales.

Six Days' Trial (contd.)

[illegible] The test would not appear [illegible] some purpose, as any machine which [illegible] day's course without running [illegible] [illegible] them circled the [illegible] reservoirs and had a [illegible]

[illegible] are most good, there have been very [illegible] Several more have retired however [illegible] [illegible] Lee (Morgan) [illegible] (3½ h.p. Sunbeam s.c.), who [illegible] [illegible] (Sol s.c.), who was one hour late [illegible]

[illegible] we hurried on to [illegible] beyond the top of Bwlch-y-[illegible] still considered one of the finest [illegible] After a few fairly alarming [illegible] abrupt right hairpin, followed [illegible] corner to the left. The gra-[illegible] the next mile, but becomes [illegible] towards the top of the two-mile [illegible] which is about 1,500 ft. above [illegible]

[illegible] and 8 h.p. [illegible] [illegible] pulleys have succeeded, these [illegible] to the very hardest [illegible] [illegible] due to bad driving, [illegible] and people [illegible] bottom corners unable to [illegible] to take the hair-

[illegible]

[illegible] We [illegible] [illegible] the top where [illegible] the many performances, divided into [illegible] may be credited with [illegible] [illegible]

Class 1 [illegible] [illegible] Goodman [illegible] L. C. M. [illegible]

What the AUTO-CYCLE UNION'S

T[illegible] is an event of vital importance [illegible] It is not a race, but is a [illegible] which the general efficiency of motorcyc[illegible] to the public is determined

ANY machine which [illegible] essfully is without dou[illegible] of any form in machines, or accessories, is bound to be revealed in this Trial.

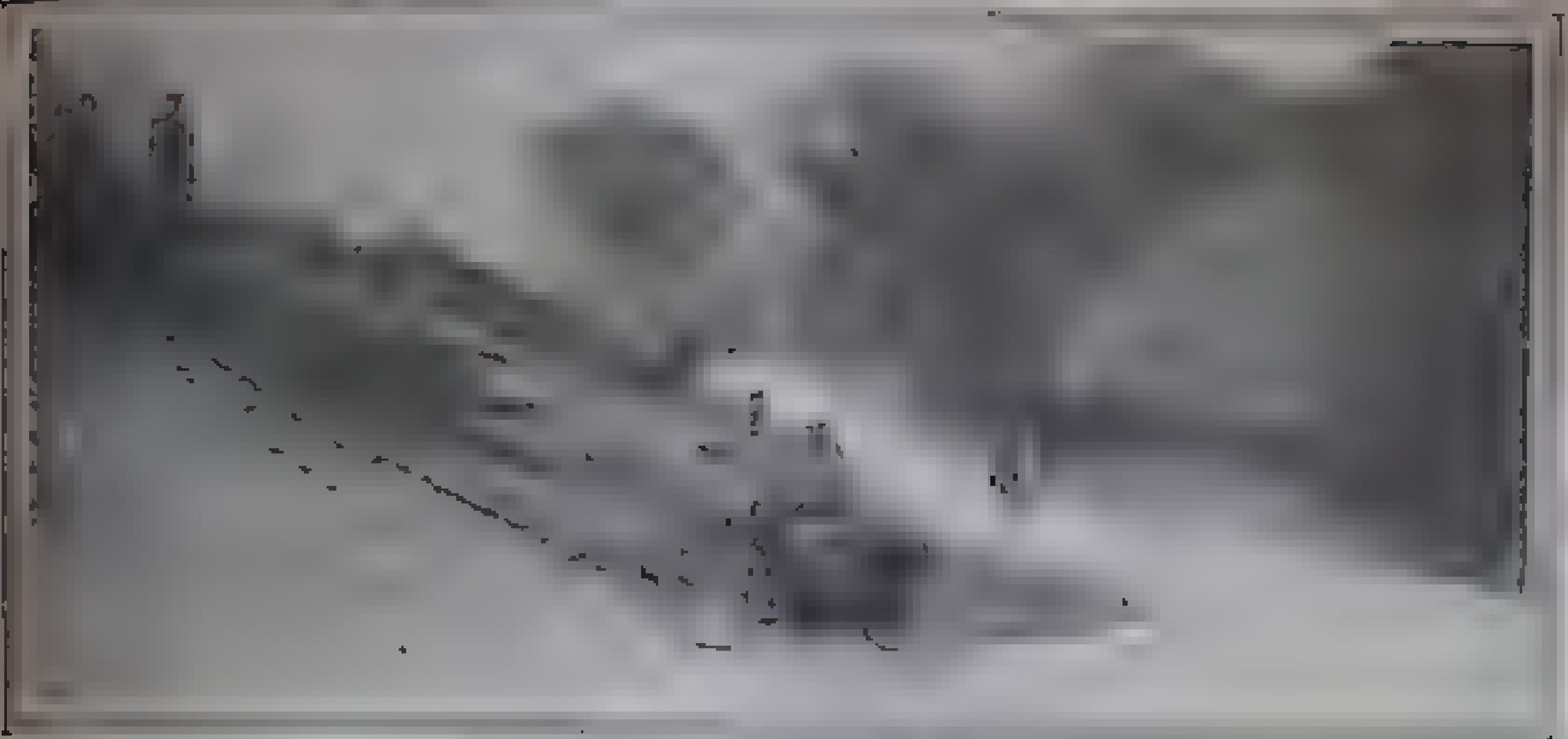
THE Auto-Cycle Union, as the controlling body for motorcycling competitions, organises the Six Days Trial; making all regulations, selecting the route and determining the awards. The Trial has been held annually (with the exception of the war period) since 1903 [illegible] more than can be calculated to improve the motorcycle and to [illegible]

Y[illegible] imposed, and the gradual elimination of weaknesses and limitations in every class of machine is practical proof of the value of the Trial.

TO-DAY, with the great revival and extension of motorcycling that Peace has brought, there is more need for the A.C.U. Six Days Trial than ever. The motorcycle is still capable of much improvement. The new tests imposed in this year's Trial indicate the directions in which the Union is assisting the trade to improve the machines that will be offered to the public next Season.

If you would like to know more of the Institution which safeguards and advances all your motorcycling interests, write to:—

THE SECRETARY, AUTO-CYCLE UNION,
83, Pall Mall ——— London, S.W.1.



R. Lewis (P. and M.) and F. J. Turvey (4¼ h.p. B.S.A.) climbing Bwlch-y-Groes. (Third day.)

[illegible] B, [illegible] machines not exceeding 350 c.c.— [illegible] (Connaught), ran; T. J. Steed (A.J.S.), [illegible]; H. L. Kitcher (New Imperial), [illegible], restarted and ran.

[illegible] solo machines not exceeding 50[illegible] c.c.— [illegible]dley (P. and M.), stopped, owing to oil [illegible]; [illegible] Lewis (P. and M.), good; W. Drake ([illegible]) [illegible] andear gate; P. J. Butterkamp (Black [illegible]); J. Emerson (A.B.C.), good; T. Rother[illegible] (Sunbeam), good; T. C. de la Hay (Sunbeam) [illegible]; G. Dance (Sunbeam), [illegible] [illegible]ughes, good; J. T. Sta[illegible] [illegible]ked, but cleverly threaded [illegible] [illegible] cautions and got up; T. B[illegible] [illegible] H. Fairley (A.B.C.), [illegible]

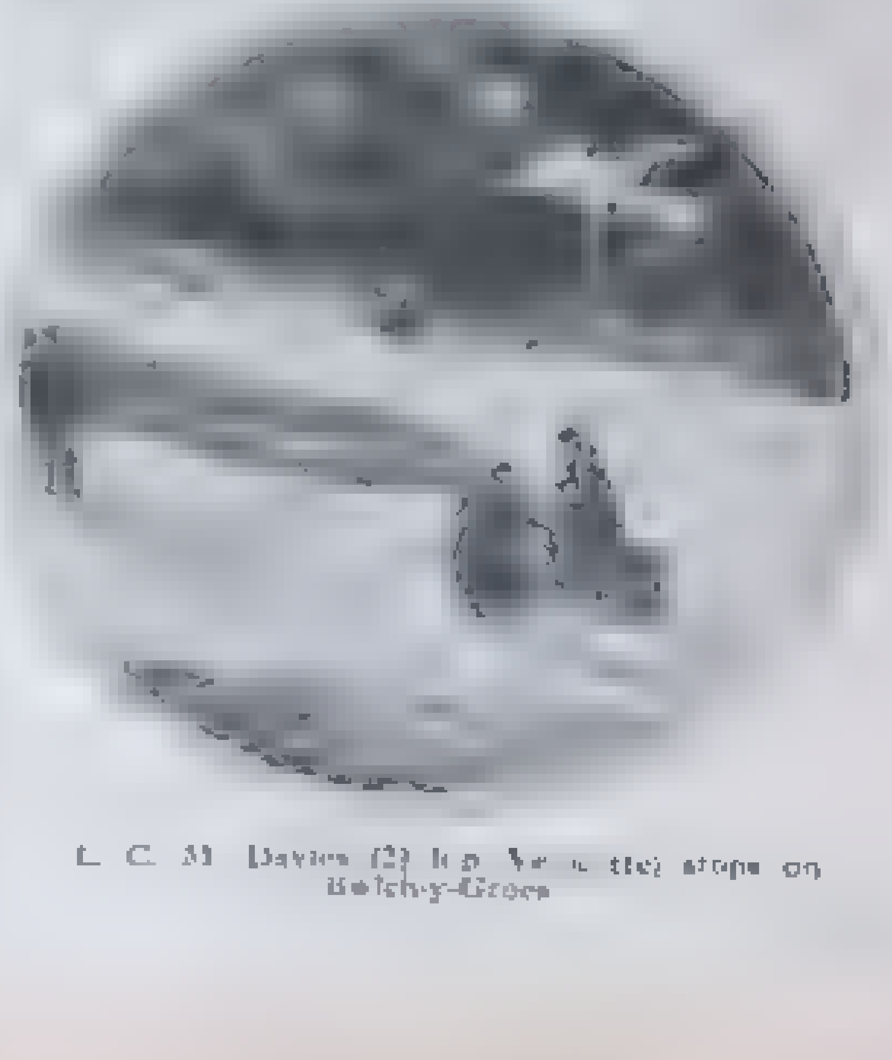
[illegible] D, solo mach[illegible] [illegible] Hill (Scott), good [illegible] W. L. G[illegible] (Sc[illegible]) [illegible]; L. L. Sealey (B.S.A.) [illegible] (Ze[illegible]), fell on bottom [illegible] then [illegible] [illegible] from side to side; Capt. [illegible] [illegible], fast; D. R. Noble (Rover), fast; H. O. W[illegible] ([illegible]), fast; M. Rycroft (Triumph), very fast; [illegible] Jun. (B.S.A.), slow but [illegible] [illegible] (Zenith), good; A. E. [illegible] [illegible] (Zenith), ran; J. B[illegible] [illegible]

W. [illegible] Chambers (B.S.A.), stopped and [illegible] [illegible], sidecar [illegible] [illegible] G. Edmond (Triumph), very fast; G. J. [illegible] (James), ran; G. Shemmans (Triumph), st[illegible]; [illegible]; S. Sawer (Norton), knocked and [illegible] (Douglas), stopped in the [illegible] proceeded to tune there [illegible] [illegible]; H. R. Lane (B.S.A.), stopped [illegible] (A.J.S.), good; T. Stevens (James), [illegible] F. [illegible] Gres (A.J.S.), good; O. Wad[illegible] [illegible] K and L [illegible] G. [illegible] M[illegible] [illegible] [illegible] stopped [illegible] H. Jopson (Zenith), stopped [illegible]

(Matchless), stopped and restarted with passenger walking; D. Alexander (Enfield), stopped; R. C. Davis (Chater Lea), fast; J. H. Place ([illegible]) [illegible] twice; S. Parker (Enfield), good; [illegible] [illegible], fast; H. Reed (Dot), good; [illegible] (Ariel), good; L. A. Baes (L.M.C.), was [illegible];

[illegible] Blackburne), good; J. [illegible] W. A. Bell-Smith (Harley-Davidson), fast; J. [illegible] Gass (Enfield), stopped and was neatly [illegible] by [illegible] and Stanley ([illegible]) who made a [illegible] Triumph and sidecar; R. Marsh (Matchless), fast; W. [illegible] (New Imperial), fast; J. D. Pratt each (Indian), good, of [illegible] [illegible] designer, "H.P.S." [illegible] [illegible] patent [illegible] F. W. Jones and S. H. [illegible] also fast; H. Greaves [illegible] [illegible]

[illegible] H. Scott's [illegible] the rest



L. C. M. Davies (2¾ h.p. Ve[illegible]) stops on Bwlch-y-Groes.

[illegible]

[illegible] ... tackle runs ... and [illegible] all [illegible]

The descent [illegible] was an exciting affair, [illegible] ft. wide and there was little chance of [illegible]. The view was magnificent, but it be[illegible] titors to keep their eyes on the road as the side was a sheer drop of [illegible].

At the luncheon stop Dr. Low aston[illegible] carefully measuring the amount of petrol put into [illegible] tank. The competitors did not know he had [illegible] the [illegible] of the consumptions were very [illegible] good.

Leaving Bala after lunch the road led over a steep and rocky pass crossed by [illegible] made severe going for the [illegible] Llanwddyn was reached. The [illegible] and kept good for the remainder of the journey. Just [illegible] Llanidloes we saw Mr. Reynolds noting competitors' times, and presumably he had a good bag, since it was very easy to get 10 mins. ahead of time [illegible]

[illegible]

[illegible] a throttle wire on one of the [illegible] but had the presence of mind to seize his cables with one hand and [illegible] with the other. He eventually changed over the throttle and air cables and fixed his air permanently open.

The following retired to-day.—J. Johnson (H[illegible]), magneto trouble; J. H. [illegible]

[illegible]

T[illegible]

[illegible] of an eight [illegible] stretch through [illegible] schedule of only 15 m.p.h. [illegible] was so no one could make [illegible] hills and the surface was not [illegible]

[illegible] Lampeter and Tregaron [illegible] beautiful village. After that [illegible] the same hill that was included on Tuesday [illegible] again caused little trouble. A [illegible] was served at the Hafod Arms Hotel at [illegible] Bridge. Here we found Dr. Low once [illegible] busy checking petrol consumption. It transpired that Frank Davis (Chater Lea) had been in trouble with [illegible] and that Harry Reed's Dot [illegible] was rapidly cracking up, as a result of [illegible] than bad luck, having four punctures, and in endeavouring to make up time [illegible] damage was done [illegible] finally finished the [illegible] with his [illegible], doing all [illegible] to keep the [illegible] motorcycle apart!

After lunch [illegible] an easy run to Aberystwyth [illegible] views of the surrounding valleys, and [illegible] to Machynlleth. A sur[illegible] in store for us, the course being up a [illegible] most of us, although knowing [illegible] existed, had forgotten. It [illegible] and according to the [illegible] book [illegible] 100 to 1,600 ft. in seven miles. Actually the [illegible] are undulating. Then follows a short steep [illegible] the observed hill. In a [illegible] the hill—or mountain track—had not started. The [illegible] four miles traversed a wonderful [illegible] and scenery [illegible] and slate [illegible]

[illegible] scores here were rather [illegible]. Approximately the first fifty, including the [illegible] little Levis, made clean ascents. By this [illegible] over the surface was becoming cut up and [illegible] the climb most unpleasant. [illegible] caused quite a number [illegible]

An example of surfaces on the mountain tracks: Morris Isaac, Rover, winner of the Principality Prize.

[illegible] B.S.A. [illegible] track [illegible]

apparently nearly drowned [illegible] water [illegible] [illegible] [illegible] [illegible] sidecar [illegible] lightens [illegible] the other splashes [illegible] much trouble [illegible] the [illegible] but [illegible] [illegible] about its surface and [illegible] proceeded, but it was no easy [illegible] of us thought [illegible] must have got all the [illegible] [illegible] have scraped the ground [illegible] footrests and [illegible] had a [illegible] thereabouts a Zenith [illegible] of luck. (Similarly on the [illegible] a sidecar driver stopped [illegible] neither of whom noticed it. *Motor Cycling*, [illegible] was on the spot, but as our duty does not consist of [illegible] tales, the competitor was officially given a clean ascent.)

To add to the complications some young rascals had placed a board in the middle of the road [illegible] vertical nail projecting. Everyone was [illegible] of a hurry trying to maintain schedule to [illegible] chasing the offenders, however. Several [illegible] mishaps occurred on this section. An Ariel rider skidded and turned right round, colliding with Douglas Alexander's (Enfield s.c.) field boot and magneto, causing a limp to the former and hasty repairs to the latter.

Eventually good roads were reached again, and

Constitution Hill, looking down, with the sea in the background [illegible] T. Peck (Ariel) and L. L. Sealey (B.S.A.) ascending.

S. Sawer (Norton), taking one of Friday's water-splashes all out, followed by two solo riders.

Looking up Constitution Hill, Swansea, showing the crowd through which competitors had to thread their way.

after Garth we once more proceeded up Panne Hill for the second consistent driving test. Here were installed in state the time-keepers, and Dr. Low once more endeavoured to catch noisy machines with his audiometer, whilst many well-known powers from London and the Midlands, who had come down for the week-end, were interested spectators.

The "C.D.T.," we may mention, was the most unpopular feature in the whole trial. The original idea "to find the winner" was good. It was to make certain that machines would climb Panne Hill as slow as, and as fast as, they had done on the Monday. But when the rules insist that the variation on the two days shall not exceed so many seconds, the test becomes one of riders and stop-watches, and not one of machines. Had the officials said: "You must not go faster than X m.p.h. on the slow mile or slower than Y m.p.h. on the fast mile on the Monday, and if you can do as well *or better* on the Friday," etc., it would have been a consistent driving test. But when we see people driving to split seconds with stop-watches, the thing becomes a farce.

During the last 20 miles several pieces of very bad luck were experienced. Jesse Baker (Scott) suffered many punctures, and, to make matters worse, he and others went off the course owing to a girl standing in front of an arrow, which was thus not seen.

The following retired to-day:—J. Baker (Scott), tyre trouble and off course, and F. C. Townshend (Sunbeam), tyres.

On arrival at the depots all machines were locked up, and Saturday was devoted to the judging, which was completed in the evening.

With commendable promptitude the A.-C.U. officials issued the provisional results in the small hours of Sunday morning. We regret that lack of space prohibits the publication of the details of marks lost, but further comments on the great trial will be given next week.

We cannot conclude this report without expressing our admiration and thanks to all the A.-C.U. officials

Six Days' Trial (contd.).

and observers for the wonderful organization of the trial throughout the week. It was only by working until 2 or 3 a.m., and even later on occasions, that the Union was able to make announcements each afternoon regarding loss of marks and other details referring to the previous day's run.

COMMENTS ON THE TESTS.

How Marks and Medals Were Lost.

THE system of marking provided for penalties under seven separate headings, viz.: (1) Deviation from schedule times, (2) consistent driving test, (3) stops on hills, (4) brakes, (5) mudguard efficiency, (6) silence and (7) condition of machine at finish.

Under the first heading, which includes losses for being both early and late at checks, the greatest

P. J. Enticknapp (Blackburne) rounding the hairpin on Bwlch-y-Groes.

sufferers were Howard Lane (4½ h.p. B.S.A. s.c.), who lost 44, Ball (2¾ h.p. Douglas), C. W. Smith (3½ h.p. Ariel), A. E. Wood (4¼ h.p. B.S.A.) and Watson (6 h.p. Ariel s.c.), 30 each. Cather-Cooke (4 h.p. Triumph) lost 23, Collins (6 h.p. A.J.S. s.c.) 21, Chambers (3½ h.p. B.S.A. s.c.) 19, and Shemans (4 h.p. Triumph s.c.) 16.

The second item, the much derided consistent driving test, claimed many victims. Seventeen competitors lost no marks, and some of the best performances are set out in detail elsewhere. Of the unfortunates, Howard Lane (4¼ B.S.A. s.c.) lost 35 marks, Prytherch (7-9 h.p. Indian s.c.) 33, Emerson (3 h.p. A.B.C.) 31, and C. W. Smith (3½ h.p. Ariel), Collins (6 h.p. A.J.S. s.c.), T. Stevens (4¼ h.p. James s.c.), Stobart (5-6 h.p. James s.c.), Watson (6 h.p. Ariel s.c.) and Greaves (10 h.p. Morgan) each 20 marks or over.

Stops on hills, four marks being lost for each stop, accounted for comparatively few penalties except amongst the lower-powered sidecar outfits, and only 32 competitors were penalized on this count.

The brake test accounted for many forfeitures, which was most unfair to the machines, as most riders missed the hill on which this test was announced to be held owing to misdirection by an official, and then were penalized on a hill when they were unaware that their brakes were being judged. Only 11 riders escaped loss of marks here, Horsman (4 h.p. Norton), Thorp (5-6 h.p. G.L. s.c.), and Watson (6 h.p. Ariel s.c.), losing the greatest number—five each.

The efficiency of the mudguards was apparently determined by the judges during their final examination. Practically everyone lost marks on this, the most striking exceptions being the Rover and Matchless teams, who, with Cholderoft's A.J.S. and Wood's B.S.A., were the only ones to get off with clean sheets.

On the question of silence, Dr. Low's apparatus played havoc with the marks. Not a single machine escaped penalty. The quietest machine, which only lost two marks, was Kaye Don's 5 h.p. Zenith, but at the same time the other three Zeniths lost four, five and five marks. No doubt a lot depended on the method of driving.

Dr. Low's Audiometer.

Very few competitors knew that, when they were going "all out" in the fast climb on Panne Hill on Monday, the noise of their machines was being recorded by Dr. Low, who, buried in his apparatus, was calmly engaged in actually photographing the sound waves which each machine set up.

His instrument consists of a diaphragm which, situated at the end of a large horn, vibrates and transmits its motion to a small mirror capable of reflecting a beam of light on to a sensitive film. The movement of this mirror being in proportion to the noise, so the waves recorded on the film vary in size, i.e., the more noisy the machine the greater the wave. Provision is made by damping the diaphragm electrically to measure not only the exhaust noise but also the valve clatter, etc.

Consistent Driving Test.

The following results indicate that the majority of competitors fulfilled the requirements of this test satisfactorily:—

Under 10 secs. error, 28 per cent.
Under 20 and over 10 secs., 14 per cent.
Under 50 and over 20 secs., 34 per cent.
Over 50 secs. error, 24 per cent.

It should be noted that of the 58 best performances 36 were on solo machines. However, the officials admitted that the penalty laid down for exceeding 10 secs. error was too severe (i.e., 1 mark per second in excess), and therefore the scale of marks lost was altered to one mark for every 10 seconds or part of 10 seconds in excess of a total of 10 seconds difference up to a maximum of 20 marks. Some of the best performances are recorded below:—

W. B. Gibb, 2¾ h.p. Douglas, ¾ sec. error.
D. H. Noble, 5 h.p. Rover, 1¼ sec. error
F. W. Giles, 6 h.p. A.J.S. s.c., 1½ sec. error.
P. W. Moffatt, 3½ h.p. Douglas, 1¾ sec. error.
G. Featherstonhaugh, 3½ h.p. Rover, 2¾ secs. error.
F. Turvey, Junr., 4¼ h.p. B.S.A., 2¾ secs. error.

Six Days' Trial (contd.).

Some Comparisons in Weights.

THE lightest machine to complete the course was P. Pike's 2¼ h.p. Levis (170 lb.), which, with a bottom gear of 14 to 1, failed on only one hill, and secured a gold medal. In the 500 c.c. class, the weights ranged from 268 lb. of Chidley's P. and M., to the 328 lb. of Moffatt's 3½ h.p. Douglas. The next class (up to 750 c.c.) shows in some cases a decrease on these weights, for E. Cross's and C. Cather-Cooke's 4 h.p. Triumphs only scaled 256 lb. and 258 lb., Kaye Don's 5 h.p. Zenith 284 lb., and the heaviest machine—Cholderoft's 4 h.p. A.J.S.—336 lb.

Of the sidecar outfits, F. E. Jones's 3½ h.p. Ariel s.c. was the lightest at 444 lb., and Craak Davies's 8 h.p. Chater-Lea s.c., which kicked the beam at 685 lb., was the other extreme. The Morgans ranged in weight from the 724 lb. of F. W. James's to the 780 lb. of S. Hall's.

Of those makes of which two or more started, the following is a summary of results:—

Make.	Starters	Gold	Silver	Bronze	No Award	Retired
Sunbeam	12	3	3	1	1	4
B.S.A.	8	3	2	1	1	1
A.J.S.	7	3	1	1	—	2
Ariel	7	—	3	1	2	1
Morgan	7	1	2	1	—	3
Triumph	6	1	2	2	1	—
Scott	5	2	2	—	—	1
Zenith	5	—	3	—	—	2
Matchless	5	1	3	1	—	—
James	4	1	1	1	1	—
Douglas	4	—	1	2	1	—
Rover	4	2	2	—	—	—
Enfield	4	1	2	1	—	—
New Imperial	3	—	—	—	—	3
P. and M.	3	1	1	—	—	1
Blackburne	3	—	3	—	—	—
Norton	3	—	2	1	—	—
Velocette	2	1	—	—	—	1
A.B.C.	2	—	—	—	1	1
Harley-Davidson	2	1	—	—	—	1
Dot	2	—	—	—	—	2
Indian	2	—	—	1	1	—

Decisions at the Committee Meeting.

At a meeting of the A.-C.U. Competitions Committee, held on Friday evening, 19th inst., at Llandrindod Wells, several interesting items were announced.

Firstly, in memory of the late Mr. J. R. Nisbet, it was decided to award a Nisbet prize, consisting of a parchment, in both the Senior and Junior T.T., to the competitor who finishes the course and who is adjudged by the other competitors to have overcome the greatest difficulties and bad luck, physical injuries excepted.

It was also announced that permits will be granted for 24 open competitions next year, to include the T.T., the Scottish and English Six Days' Trials, and the Irish End-to-End as the four principal events. The remaining 20 competitions are to be organized by affiliated clubs, for the purpose of which the country will be divided into districts, and the A.-C.U. will endeavour to get clubs in each district to agree amongst themselves which clubs will run the trials allotted to their districts. Failing agreement, the decision will be by ballot. This suggestion was made by Major Axford in *Motor Cycling* recently.

A T.T. Race Next Year.

AT the General Committee meeting, it was decided to organize the Tourist Trophy Race next year, during the last 10 days in May. It was also settled that the Six Days' Trial will be held in the last week of July.

PROVISIONAL RESULTS.—THE TEAM PRIZE.

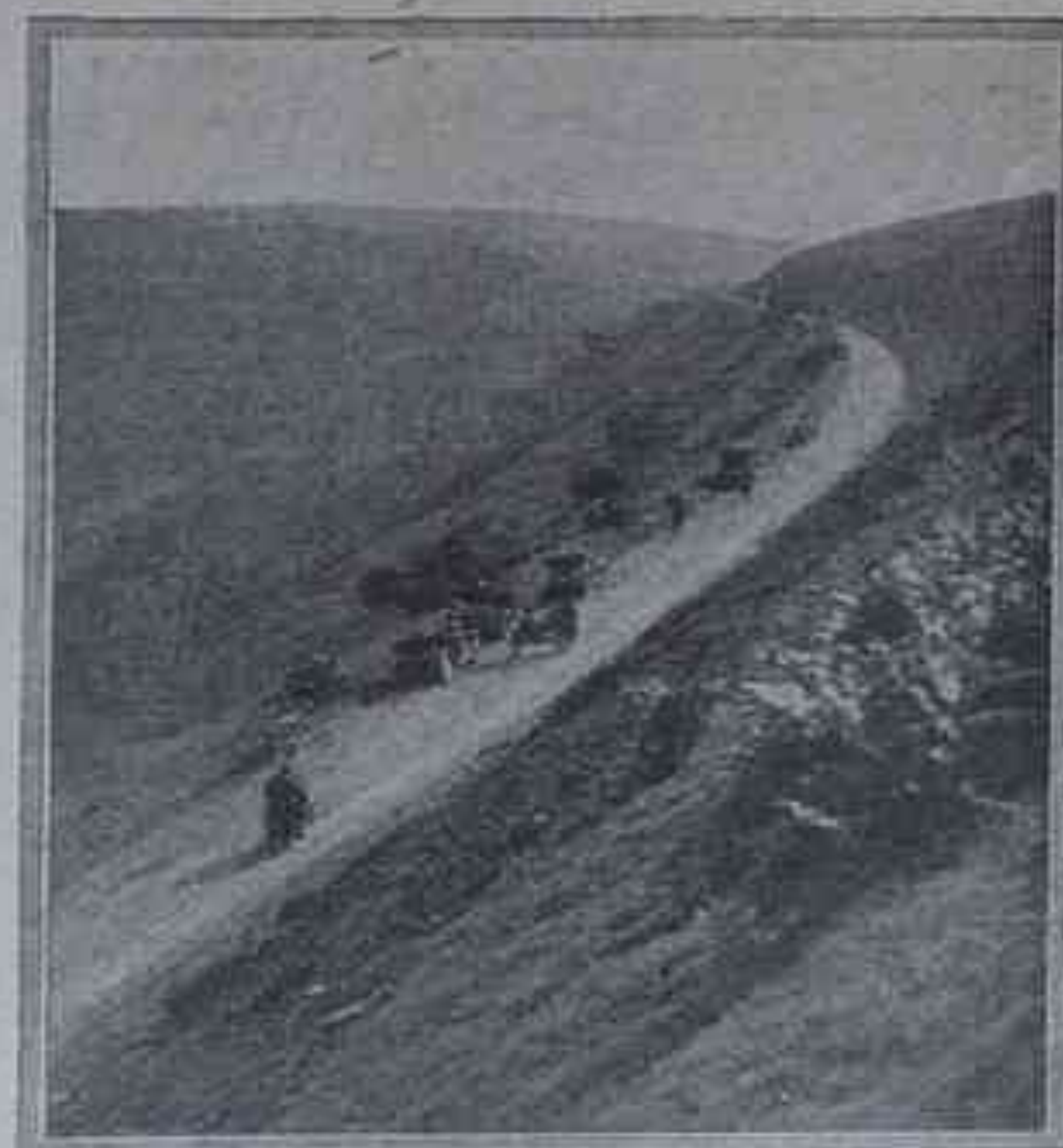
1. B.S.A. "A" team, H. F. Edwards, L. L. Sealey, and F. Turvey, Junr.
2. Scott team, H. O. Wood, C. P. Wood, L. Guy.
3. Rover team, G. Featherstonhaugh, D. H. Noble, and W. Danskin.

PRINCIPALITY PRIZE.—Morris Isaac (3½ h.p. Rover).

FUEL PRIZES.

Class D—H. O. Wood (3¾ h.p. Scott).
Class E—J. W. Wills (6-7 h.p. Ariel).
Class G—F. E. Jones (3½ h.p. Ariel s.c.)
Class H—S. Sawer (4 h.p. Norton s.c.).
Class K—Rex Mundy (8 h.p. Matchless s.c.).

Gold Medals:—J. F. Lidstone, 2¾ James; P. Pike, 2¼ Levis; E. F. Goodman, 2¼ Velocette; R. Lewis, 3½ P. and M.; Morris Isaac, 3½ Rover; W. B. Easlington, 3½ Sunbeam; J. A. Newman, 3½ Sunbeam; T. Rutherford, 3½ Sunbeam; F. W. Cholderoft, 4 A.J.S.; F. W. Applebee, 4¼ B.S.A.; H. F. Edwards, 4¼ B.S.A.; F. Turvey, 4¼ B.S.A.; D. H. Noble, 5 Rover; H. O. Wood, 3¾ Scott; Alan Hill, 3¾ Scott; O. Wade, 6 A.J.S. s.c.; F. W. Giles, 6 A.J.S. s.c.; F. G. Edmond, 4 Triumph s.c.; W. A. Pell-Smith, 7-9 Harley-Davidson s.c.; H. F. S. Morgan, 8 Morgan; D. Alexander, 8 Enfield s.c.; R. Mundy, 8 Matchless s.c.



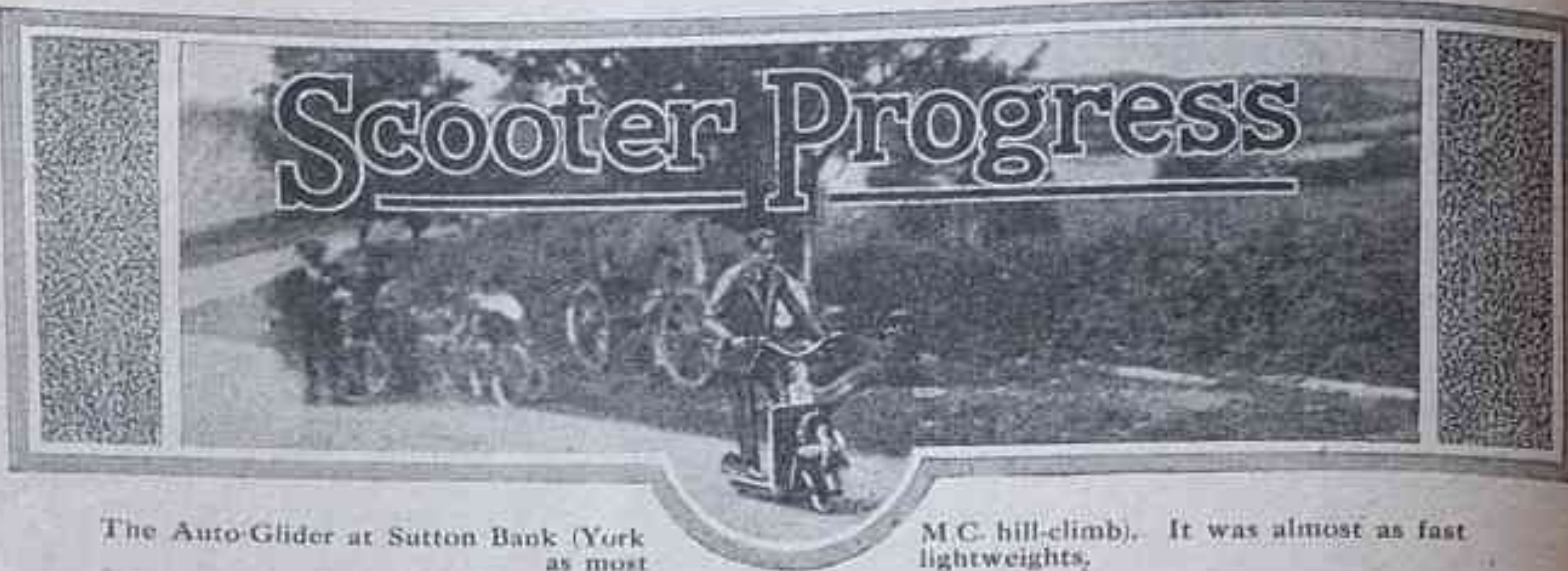
The "last lap." Competitors ascending Panne Hill in the Consistent Driving Test on Friday afternoon.

Silver Medals:—B. Kershaw, 2¾ Verus; T. G. B. Yale, 3½ Ariel; P. J. Enticknapp, 4 Blackburne; J. Watson-Bourne, 4 Blackburne; P. W. Moffatt, 3½ Douglas; G. A. Strange, 2¾ James; W. Drake, 3½ P. and M.; W. Danskin, 3½ Rover; G. Featherstonhaugh, 3½ Rover; G. Dance, 3½ Sunbeam; J. Dudley, 3½ Sunbeam; T. C. De la Hay, 3½ Sunbeam; L. L. Sealey, 4¼ B.S.A.; A. Lindsay, 4 Norton; W. L. Guy, 3¾ Scott; C. P. Wood, 3¾ Scott; E. Cross, 4 Triumph; M. Berrill, 4 Triumph; G. Browne, 5 Zenith; H. Chadsworth, 5 Zenith; K. Don, 5 Zenith; J. W. Wills, 6-7 Ariel; F. E. Jones, 3½ Ariel s.c.; W. J. Chambers, 4¼ B.S.A. s.c.; H. C. Heath, 6 A.J.S. s.c.; F. Thorpe, 5-6 G.L. s.c.; S. Sawer, 4 Norton s.c.; J. R. Holroyd, 4 Blackburne s.c.; H. Gibson, 8 Clyno s.c.; G. R. Collier, 8 Matchless s.c.; J. A. Houlk, 8 Matchless s.c.; G. C. McAlashan, 8 Matchless s.c.; F. W. James, 8 Morgan; J. Dexter, 8 Enfield; T. C. Guse, 8 Enfield s.c.; S. Hall, 10 Morgan.

Bronze Medals:—W. B. Gibb, 3½ Douglas; T. Peck, 3½ Ariel; M. Davies, 3½ Sunbeam; A. E. Wood, 4¼ B.S.A.; V. E. Horsman, 4 Norton; C. Cather-Cooke, 4 Triumph; H. Parkinson, 4 Triumph; C. Collier, 6 A.J.S. s.c.; H. Thorpe, 4 Douglas s.c.; G. E. Hobart, 5-6 James s.c.; E. A. Colliver, 7-9 Indian s.c.; G. D. Hardie, 8 Matchless s.c.; S. Parker, 8 Enfield s.c.; H. Greaves, 10 Morgan.

Finished, but gained no award:—F. G. Hall, 2¾ Douglas; J. Emerson, 3 A.B.C.; C. W. Smith, 3½ Ariel; J. T. Shilling, 3½ Sunbeam; H. B. Lake, 4¼ B.S.A. s.c.; T. Stevens, 5-6 James s.c.; G. Sherman, 4 Triumph s.c.; F. J. Watson, 6 Ariel s.c.; J. D. Prytherch, 7-9 Indian s.c.

Retired:—A. T. Ashby, 2½ Connaught; H. H. Baxter, 2¾ Radco; L. C. M. Davies, 2¼ Velocette; T. J. Sharpe, 2¾ A.J.S.; H. L. Kitchen, 2¾ New Imperial; H. Fielder, 3 A.B.C.; J. Edwards, 3½ Humber; E. E. Chidley, 3½ P. and M.; J. Baker, 3¾ Scott; Capt. Oliver, 3½ Sunbeam; F. C. Townshend, 4 Sunbeam; A. V. Sumner, 5 Zenith; E. Bottomley, 7-9 Harley-Davidson; H. Brown, 3½ Sunbeam s.c.; E. Williams, 6 A.J.S. s.c.; W. Edwards, 4¼ B.S.A. s.c.; J. L. Stocks, 6 Ariel s.c.; S. Debenham, 6 Campion s.c.; H. C. Davis, 8 Chater-Lea s.c.; H. Reed, 8 Dot s.c.; J. H. Flare, 8 Dot s.c.; L. A. Bees, 7-9 L.M.C. s.c.; N. Seaman, 8 Morgan; W. R. Haggas, 8 New Imperial s.c.; J. Drew, 8 New Imperial; J. G. Lowes, 8 Sunbeam s.c.; H. Jepson, 8 Zenith s.c.; W. J. Barker, 10 Henderson s.c.; W. D. [illegible], 10 Morgan.



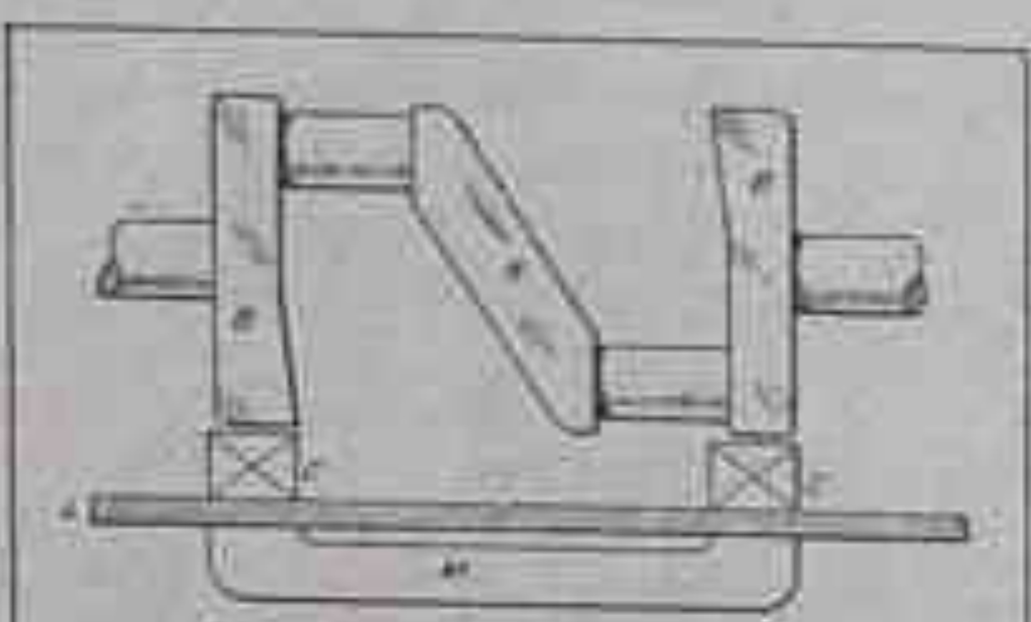
The Auto-Glider at Sutton Bank (York M.C. hill-climb). It was almost as fast as most lightweights.

THE ASPDEN AUTOSCOOT.

An Unusual Ignition System.

YET another motor scooter—to be known as the Aspden Autoscoot—will be placed on the market in about three months' time. The chief points of interest about this scooter are the novel system of ignition, which is herewith described, and a pressed steel frame made from a single sheet of metal. This is extremely strong, owing to its peculiar construction.

The frame is of such a shape that it not only forms a cradle for the engine, but also includes the footboards, the rear mudguards, petrol tank, and battery compartment. At the same time it provides a cowling arrangement for the engine. Thus it will be seen that this scooter is particularly suitable for ladies.



The engine is a 170 c.c. 2 h.p. two-stroke, and is fitted with a patent silencer, which is cast with the cylinder. A variable pulley gear is fitted, and the transmission, of course, is by belt, the slack being taken up by an adjustable torque rod. The wheels are of ample diameter, and take 20 in. by 2¼ in. tyres. Two brakes are incorporated, hand operated on the rear wheel and foot operated on the engine flywheel. The carburetter is of the single lever variety, and is controlled by twist grip. The seat is adjustable and easily removable. Electric head and tail lamps are fitted. The variable gear gives about 4½ to 1 on top, when a maximum speed of 25 m.p.h. is obtained.

The new ignition system is most unusual, and while it is of very simple construction and entirely dispenses with the complicated magneto, we would prefer not to express an opinion of its efficiency without a thorough test. The system, it is claimed, can be used with equal success on motorcycles or cars. Its action can be easily understood from the accompanying diagram, which shows the ignition of a two-cylinder engine. The crankshaft (K) is provided with two segmental-shaped balance weights (BB). This shaft functions as the armature of a magneto. Directly under the balance weights are situated two soft iron cores (CC), which are attached to the crankcase, and round which are wound coils of wire.

A permanent bar magnet (M) provides the flux, and is attached to the outside of the crankcase, having its poles under the two cores. When the crankshaft is in the position shown, the magnetic flux will take the path of least resistance and will flow from one pole, through the balance weight and part of the shaft back to the other pole. As the crankshaft rotates, the distance between B and C increases until the gap becomes too wide, and the lines of force cut back and flow from C to C. At this moment the maximum current is generated in the windings and the spark is produced.

This system of ignition can be modified for any type of engine. It has been patented, and is claimed by the designer as inexpensive, very efficient, and requiring no attention.

Petroil lubrication is employed, and the petrol tank has a capacity of two-thirds of a gallon. The front mudguard is dome-shaped and of ample dimensions, and the rear mudguard is pressed in with the frame. Ample room is provided on the footboards, which are also part of the frame.

The designer of this very interesting scooter is Mr. R. L. Aspden, of 6, Southford Road, Chorley.

The Misses Lorna and Toots Pounds, who both own and use their Kingsbury scooters for journeys to the station. They will be seen riding these machines in the revue "Pretty Peggy."

Crossing the t's.

How the A.A. is extending well-known facilities.

The Automobile Association places no reliance on the proverb, "Leave well alone," in connection with its road service for members. Having successfully organised

and provided a new benefit, the Association is not content to maintain it at the original level, but all the time endeavours to go one better.

The present season has seen marked activity in the Association's policy of progress, as is evidenced by the following 1919 Service refinements:—

Road Patrol Scheme. "Mechanical First-Aid" Cycles fitted with sidecars carrying spares and tools necessary for light repairs to cars or motorcycles have been added.

Roadside Telephones. All the A.A. sentry boxes are being adapted for a 24-hour telephone service, and every member will be given a key which will enable him to use any of the instruments at any hour of the day or night.

Free Legal Defence. This benefit now covers Free Legal Representation in civil cases by the Association's solicitors in all approved cases arising from the sale, purchase, or use of privately-owned motor cars or motorcycles.

Foreign Touring Assistance. Members of the Association can now take their cars into a 70 per cent. tariff country on a banker's indemnity alone and without depositing hundreds of pounds in customs dues.

Branch Offices. New offices have been opened at Oxford, Cambridge and Brighton, where members, whilst *en route*, can obtain road information.

Motor Fuel. The Association has commenced 10,000 and 5,000 miles road tests of "National" benzole, on a Sunbeam car and a Triumph motorcycle, in order to prove once and for all that benzole of good quality is completely satisfactory as a motor fuel.

Complete information as to the objects of the Automobile Association and the many privileges it extends to members, is contained in a new edition of "The Key to the Open Road," a copy of which can be obtained, post free, from the Secretary, A.A. & M.U., 3, Fanum House, Whitcomb Street, London, W.C.2. Send a postcard to-day. Motorists in London who wish to join the Association without delay are invited to call at Headquarters, where a staff of experts is always in attendance ready to give information on any question relating to motoring.

INTERIM NOTICE TO MEMBERS

THE AUTOMOBILE ASSOCIATION is watching closely the formation of the MOTOR AGENTS' UNION, which conceivably may affect adversely the interests of the Motor User and Consumer.

The Secretary will be obliged if members will send him particulars of any incidents or developments relevant to this matter.

STENSON COOKE,
Secretary.

The Automobile Association & Motor Union,
Fanum House, Whitcomb Street,
London, W.C.2.

— NEWS IN BRIEF. —

MAKING ITS DEBUT IN THE SIX DAYS' TRIAL.

J. Dosher on one of the 1920 model Royal Enfields.

Lighting-up time for Saturday, September 27th, 1919.

London	7.48 p.m.
Newcastle	7.57 p.m.
Birmingham	7.56 p.m.
Edinburgh	8.5 p.m.
Liverpool	8.1 p.m.
Bristol	7.58 p.m.
Dublin	8.14 p.m.

Lighting-up time in Ireland and Scotland is one hour after sunset.

Lamps must be kept lighted until one hour before sunrise.

Lighting-up time in England and Wales is now one hour after sunset.

Moon.—No moonlight this week-end.

Triumph Beats All-comers.

BELGIUM is quickly returning to the sporting activities of pre-war days. The motor-cycling championship of Brussels has just been decided over a course of 98 kilometres. Many English and American machines competed, but Eugene Taymens, astride a 4 h.p. Triumph, proved too good for the opposition, which included many big twin-cylinder machines.

Are You Looking for a Job?

A SCOTTISH motor engineering firm has vacancies for really good fitters and turners. Applicants must have served in either the Army, Navy, or R.A.F., and should state length of service, unit, and whether members of the A.S.E., or other union. Replies, marked "Scottish" in the top left-hand corner, addressed to the Editor, *Motor Cycling*, 7-15, Rosebery Avenue, London, E.C., will be forwarded.

Stupendous Statistics.

THE automobile industry in America employs 830,000, who draw $747,000,000 in annual wages. The capital invested in the industry is $1,297,000,000. During the year 1918 6,146,617 motor vehicles were registered in the U.S.A. In New York State 28,597 motorcycles were registered, California 27,887, Pennsylvania 26,261, and Ohio 20,717. The smallest number registered is in Nevada—121 machines.

Production Extraordinary.

DURING the war the Shell Petroleum Co. turned out over 5,000,000 petrol tins, the greater part of this stupendous number passing on to other purposes after their first function had been discharged. At one period of the war the British Army requirements in France were at the rate of 10,500,000 gallons per month.

That £9,000,000.

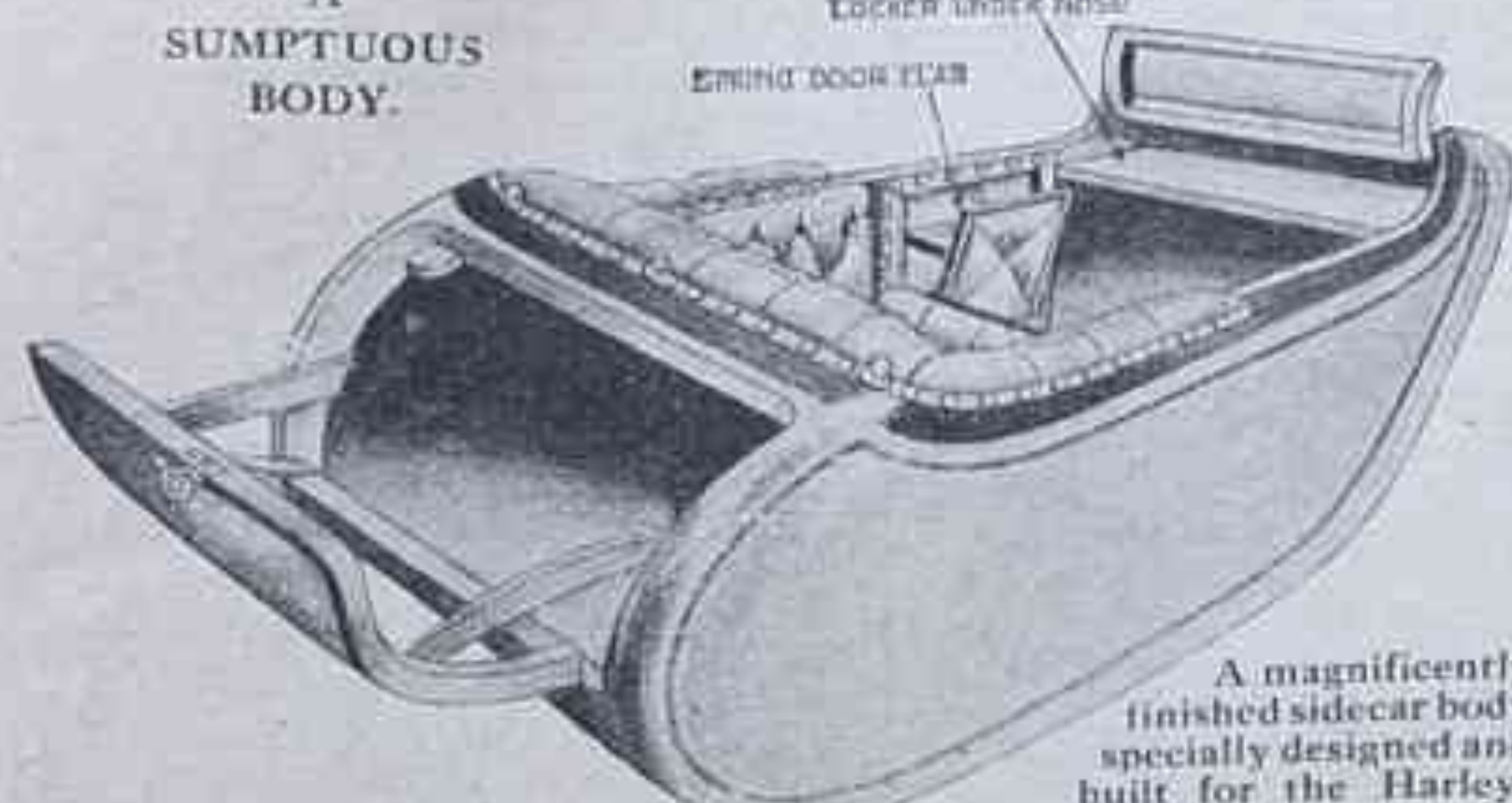
ONE is tempted to ask how much of the £9,000,000 said to have been granted to the local councils (representing a portion of the amount contributed by motorists in the shape of petrol tax which has been accumulating since 1914) will be devoted to the remaking of road surfaces, as distinct from tarring operations. In several districts lately we have noticed that work has been limited to top dressings of tar, although in each case the surface has been in a very pot-holey condition. After the shock motorcyclists received a short time ago, when it was feared that the new department under the ægis of Sir Eric Geddes would have appropriated the whole of the amount contributed as petrol tax for the benefit of all kinds of transport (including railways and canals), we must confess to a certain feeling of uneasiness as to the plans of the bodies who will, as usual, have unfettered authority and powers in the spending of our money.

SHALL WE SEE A LEVIS SCOOTER?

Mr. A. Milner, the well-known competition rider, has recently taken delivery of a scooter specially built for him by Butterfields, of Levis fame. A Levis 172 c.c. engine is fitted. Meanwhile, Mrs. Milner makes the most of her husband's Diamond.

The Essex Club's Gymkhana—An Interesting Lecture Course.

A SUMPTUOUS BODY.



A magnificently finished sidecar body specially designed and built for the Harley-Davidson Co.

Motorcycles for the American Army.

TEN thousand motorcycles will be needed for the American peace-time army, and that number will be composed of Indian and Harley-Davidson machines.

Ruined Roads.

THE heavy char-à-bancs traffic has played havoc with the roads in the Lake District. Traffic has been heavier than in pre-war days owing to poor and restricted railway services. At a recent meeting of the Westmorland County Council a resolution empowering the roads committee to take steps to bring about restoration was passed unanimously.

Higher and Higher.

A RACE through Northampton at the alleged speed of 45 m.p.h. cost two well-known Northampton motorcyclists £15 each. The charge was for driving to the danger of the public, and exceeding the speed limit. Evidently the police have declared war with a vengeance. At Combe Martin, Devonshire, fines are also high. Two youths who were up for their first offence under the Motor Car Act were fined £7 each.

Essex Club Gymkhana.

THE programme for the Essex Motor Club Gymkhana, to be held at the Essex track, "King's Oak," High Beech, Loughton, on September 27th, has now been completed. The seven events include: Potato picking (for solo machines); apple bobbing (for solo machines); "take the bun" (solo and sidecar machines); fishing race (cars and sidecars, lady passengers); circling the flags (sidecar machines), cigarette lighting race (for drivers of cars and sidecars); and musical chairs (sidecar machines, lady passengers). Altogether 18 prizes will be distributed. Entries, 1s. per event, will close on September 25th. A start will be made punctually at 2.30 p.m., and a band will be in attendance during the afternoon. Admission will be 1s. 6d., or by ticket 1s. Tickets may be obtained from Mr. F. A. Applebee, 208, Great Portland Street, W., or Mr. D. S. Kapadia, Algers Road, Loughton.

Douglas Success in South Africa.

THE Douglas machine has added another noteworthy performance to its long list of successes. The annual Johannesburg-Durban race has been won by P. Flook, on a 2¾ h.p. Douglas. The course was 421 miles in length, and over roads that are hardly worthy of the name. The winner's time has not yet come to hand. Flook, it will be remembered, represented South Africa in the 1913 T.T. race in the Isle of Man. On that occasion he rode a Triumph.

Petrol Motor Classes.

COMMENCING on September 20th petrol motor classes are being held at the Borough Polytechnic Institute, Borough Road, S.E. A lecture course, extending over a pediod of 12 weeks, and open to men and women, costs only 15s. This course is intended for those who have already had some experience. There is also a practical course of similar duration and costing a like amount.

Signs of the Times.

IN pre-war days Coventry railway station was a miniature Olympia, save that the machines were in crates or covered with packing. Therefore, on a recent visit it was quite refreshing to notice that it is once more taking on its old appearance. Machines are now beginning to come through in appreciable numbers from most of the large manufacturers. The chief obstacle to output at the present time seems the shortage of accessories and minor fittings. Incidentally, a prominent works manager informed us that their head buyer was "worth his weight in gold," as he had a knack of extorting deliveries of material.

A smart Triumph owned by Mr. Kear and which participated in the recent Wolverhampton Trial. The sidecar and disc wheels are of aluminium. Note the windscreen.

The Progress of the 5,000 Miles Benzole Test—The Humber Museum.

Lack of Garage Facilities.

QUITE a feature of any large city is the lack of garage accommodation in the centre of the town. Many business men rely on their machines for transit between their homes in the suburbs and their town offices, rather than have the discomfort and inconvenience of suburban train or tram services. Such garages as exist in the centre of cities are hopelessly overfilled, and their only chance of expansion would seem to be to add further floors, with an efficient lift service.

The A.A. 5,000 Miles Benzole Test.

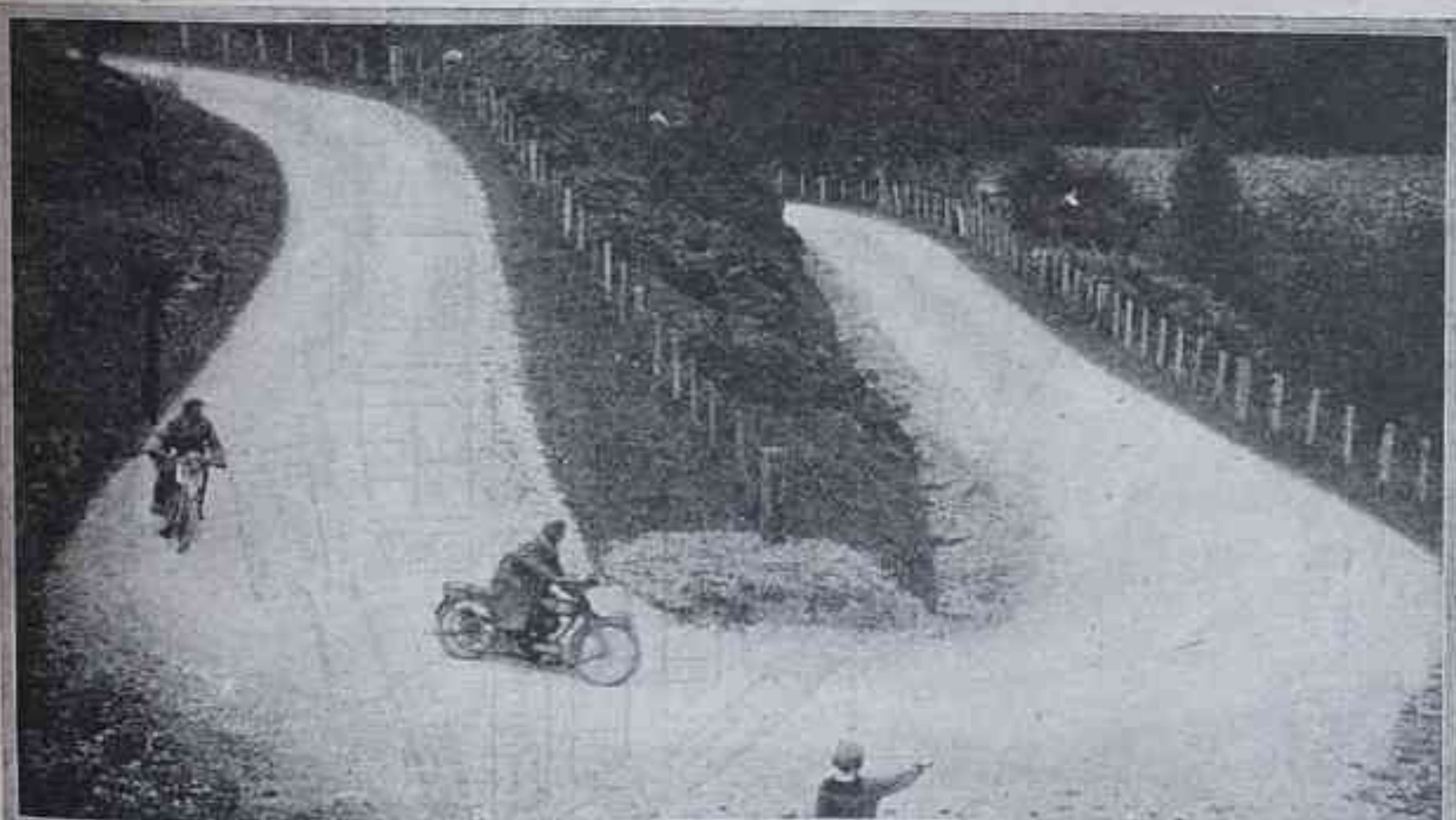
THE confidence of the A.A. in securing a 4 h.p. chain-driven Triumph combination for this severe test has been more than justified up to the present. From reports to hand, both the test combination and the sister machine have so far run with the unfailing regularity of a watch. With the exception of a very wet journey from Buckden to Leeds, the test has been favoured with excellent weather and good roads up to the time of writing. Passing through Doncaster, on the way to Leeds, heavy traffic, owing to the races, was encountered, and the journey through that city occupied an hour. These are the sort of things that tell on the fuel consumption, but, nevertheless, it is thought that the machines are averaging somewhere in the neighbourhood of 100 miles per gallon. The records so far available show that close on 800 miles have been covered in the first six days without trouble of any kind. The fuel consumption, however, has not yet been worked out by the A.A. officials, but in our next issue we hope to be able to give some idea as to what is exactly being done in this respect.

A War Museum.

CALLING at the Humber works recently, we found the spacious hall full of interesting exhibits of the various munitions manufactured by the firm during the war. Shells, fuses, bombs weighing one cwt., and two fine models of field kitchens—these brought back vivid memories, but more interesting still to motorcyclists were two complete aero engines of BR2 type. The machined steel cylinders and the detachable combustion heads, are reminiscent of motorcycle engine design. Another fine model of an Avro aeroplane, which is at least 6 ft. across the wings, is particularly striking. But most interesting of all are two large polished wood panels, forming the firm's Roll of Honour.

Amateur Guerilla Warfare.

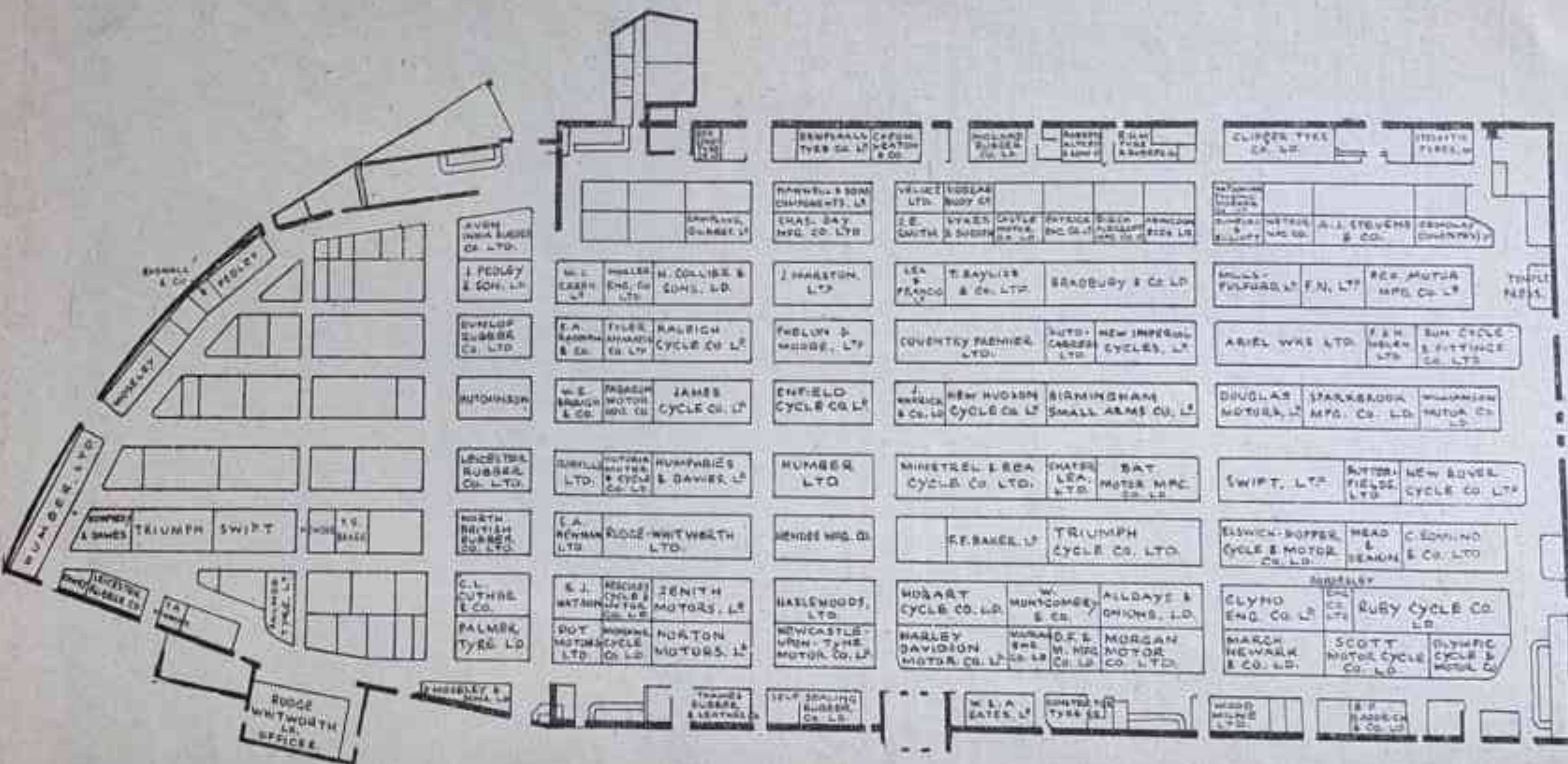
"THERE is a new recklessness about—obviously one of the lesser legacies of the war—which seems equally to infect drivers of all kinds of cars. Reminders of his insignificance are forced on the unhappy foot-passenger as frequently by the chauffeur of the mud-slinging commercial wagon as by the ruthless road hog on a devious motorcycle. All this, however, provides neither reason or excuse for the pelting of motors and motor drivers by small boys and youths old enough to know better. We hear too much of this kind of thing. There may be some idea of revenge and 'getting level' in the lads' minds. If so, their minds should be cleared of the idea. We cannot have amateur guerilla warfare on these lines." Extract from a leading article in the London *Daily Express*, who conclude by asking "Where is 'mother'—with that old slipper?"



Capt. Alexander Lindsay (4 h.p. Norton) and Tom Peck (3½ h.p. Ariel) on the hairpin bend in Glen Elan on the second day of the Six Days' Trial.

THE 1919 MOTORCYCLE SHOW AT OLYMPIA.

PLAN OF THE HALL.



WHERE TO FIND YOUR FAVOURITE MACHINE.

The above plan shows the provisional stand positions of most of the principal motorcycle concerns, showing at Olympia this year. It will be noticed that there are apparently several vacant stands. This must not be taken to mean that they have not been apportioned. It is probable that they will be utilized as offices by the exhibiting concerns.

Mrs. Fletcher (nee Miss Rose Hammett) leaving the Douglas works on one of her journeys.

A LADY RIDER'S 15,000 MILES PER YEAR.

The Pleasures of Riding Three New Machines Every Week.

ONE of the first objections with which universal feminine motor cycling has to contend is the belief, not unnaturally entertained by a number of people, that motor cycling is injurious to a woman's health. One hears a good deal nowadays of the strain of driving, and although one may suppose that the mental fatigue induced is no worse for either sex, it is not unnatural to question whether women's weaker physical "chassis" is altogether up to the stresses unavoidably imposed by our long-suffering road surfaces.

No better proof that this is happily not the case could be provided than the testimony of a famous lady motorcyclist, with whose remarkable riding performances, in search of health, this article proposes to deal. Many readers will remember Miss Rose Hammett, of Douglas fame, one of the little coterie of lady riders whose names were famous before the war, for the pluck, endurance, and skill they displayed in the multitudinous trials, hill-climbs, gymkhanas, etc. Miss Hammett, at that time, always rode a 2¾ h.p. lightweight Douglas. On this make of machine she must have covered many thousands of miles yearly. Shortly before the war she became Mrs. Gordon Fletcher, a name well known in connection with the Douglas concern. When the war intervened she gave up motor cycling to a great extent, with the result that her health began to suffer to an alarming extent. This opinion was actually confirmed by a doctor, who advised Mrs. Fletcher to take up the pastime again as soon as possible—a rather tall order at that time, as, owing to circumstances over which the unfortunate public had no control, motor cycling was practically non est!

However, in the early summer of 1919 Mrs. Fletcher was able to take up the pastime once more with a vengeance, and incidentally, greatly to assist buyers of Douglas machines in securing early delivery of their mounts. Railway transport not yet having recovered from the stress of the war, Messrs. Douglas Bros. found their London deliveries an acute problem. The railway companies would often keep the machines at the station for weeks on end, with the result that there was frequently an angry customer dancing at the other end who believed that the Douglas concern had played him false. The only solution was to deliver by road. This job was pluckily taken on by Mrs. Fletcher.

Most married women would think that to give up one day out of the busy household week to fetching a new machine from the Kingswood works, over 100 miles away, would be strenuous enough, but Mrs. Fletcher goes up three times weekly, and thoroughly enjoys it! An early start—half-past seven at Paddington—is necessary, for none of the new machines are supplied with lamps, and stoppages must be provided for. Mrs. Fletcher generally leaves the works with her new 4 h.p. sidecar outfit by 12.30 p.m. and arrives at the London depot about 7 p.m. Six hours, including stops for meals, is excellent time when one takes into account the fact that all the machines ridden by her are absolutely new. The fact that she has never had to procure lamps on the road is a tribute both to the skill of this plucky rider and to Messrs. Douglas Bros. workmanship.

Curiously enough, the only occasion upon which Mrs. Fletcher ever had to spend the night on the road was when accompanied by her husband, who was also riding a 4 h.p. combination. This was the result of exploring some wonderful caves on the road. Lamps were procured, after some difficulty, and it was hoped to be able to finish the journey after all. The dry batteries supplied soon gave out, however, and the lady of the party, feeling that the limit of her endurance had been reached, turned her machine into a near-by field and announced that she meant to stay where her wheels ceased to revolve until morning! Fortunately, Mrs. Fletcher had a thick fleece-lined coat with her and she was able to curl up in the bottom of the sidecar and sleep until 6 a.m. Breakfast was procured in the nearest town and the run completed with no ill-effects from the adventure.

In spite of her long day this plucky rider owns to little or no fatigue. "A hot bath and my supper when I get in, and I am quite all right," says she. Could there be any better proof that even the most strenuous forms of motor cycling do not play that havoc with women's nerves of which they are so persistently warned? Far from looking upon these expeditions as a strenuous duty, Mrs. Fletcher thoroughly enjoys them, especially traffic driving. Combining pleasure with business as far as possible, she generally finds time for a rest on the journey. Speaking of this, she incidentally paid a welcome tribute to the spirit of chivalry among riders of the stronger sex, which, she insists, still exists as strongly as ever. "Even when I am only resting by the roadside," says Mrs. Fletcher, "it is very seldom that a passing motorcyclist will fail to pull up and inquire whether I am 'all right.'" This seasoned

A Lady Rider's 15,000 miles per Year (contd.).

rider does all her own road repairs, "loves tinkering," and probably knows more about the Douglas anatomy than any knight-errant on the road, but it is pleasant to hear from one who has really had plenty of opportunity of judging that road camaraderie has not waned with the war.

Wardrobe tips are always interesting, especially when they are the result of really extensive experience, and a paragraph dealing with Mrs. Fletcher's choice of costume for her Bristol trips should appeal to every lady motorcyclist. The skirtless type of garment is *not* this rider's ideal, even though she rides machines intended for masculine use. Mrs. Fletcher's favourite rig-out consists of an ordinary skirt of Burberry waterproof material, buttoning right up the front, which she finds perfectly convenient for use with an open frame, as it can be tucked neatly round the legs, out of the way, when riding, and at once resumes the appearance of an ordinary skirt when the wearer dismounts. "Leather outfits, or breeches, are entirely unnecessary on the road" is Mrs. Fletcher's opinion, "and only make the wearer feel very awkward when entering an hotel or restaurant. The ordinary button-up skirt is just as comfortable and far more serviceable." She also wears a costume coat and waterproof cap to match the skirt, light boots, gauntlets, and an ordinary white sweater, coming high up round the throat. Oilskins are her favourite wear in wet weather. She is also very particular upon the subject of goggles, and never rides without them.

Mrs. Fletcher is a staunch believer in motor cycling, both for herself and for her sex, and expressed surprise that more women do not possess themselves of machines. On the other hand, it is regrettable to have to record that her opinion of the ladies' driving powers is very low indeed! She considers the 4 h.p. Douglas combination an ideal mount for women, although for trial work she would always plump for the 2¾ h.p. model. "I love motor cycling, and do not suppose I shall ever give it up" is Mrs. Fletcher's tribute to the pastime. What woman could ask for a better!

O. M. SALTER.

THE PARIS SALON.

Many English Exhibitors—Interesting Continental Machines to be Staged.

ON October 9th next President Poincare will open the Paris Salon, at the Grand Palais, Paris. It will remain open until October 19th. Some really interesting exhibits can be expected. The British exhibitors will be represented by the A.B.C., B.S.A., Douglas, Matchless, Phelon and Moore, Rover, and Triumph machines. As we stated recently, however, the A.B.C. machine for the French market is manufactured over there. In addition to the 3 h.p. motorcycle the A.B.C. scooter will also be shown. The Matchless Co. will exhibit their 8 h.p. spring frame model, and Douglas will have their 3½ h.p. spring frame machine on view for the first time in France. The Triumph Co. will probably send a few of their new models.

That the French are entering more and more into the field of motorcycle manufacture cannot be disputed, and the following firms have all secured space at the Show:—Clément, Gladiator, La Française, Griffon, Alcyon, Austral, Armor Thomann, Labor, Magnat - Debon, Rene Gillet, Peugeot, Blériot, Lévy, Janoir, Louis Clément, G.L., Lumen, etc.

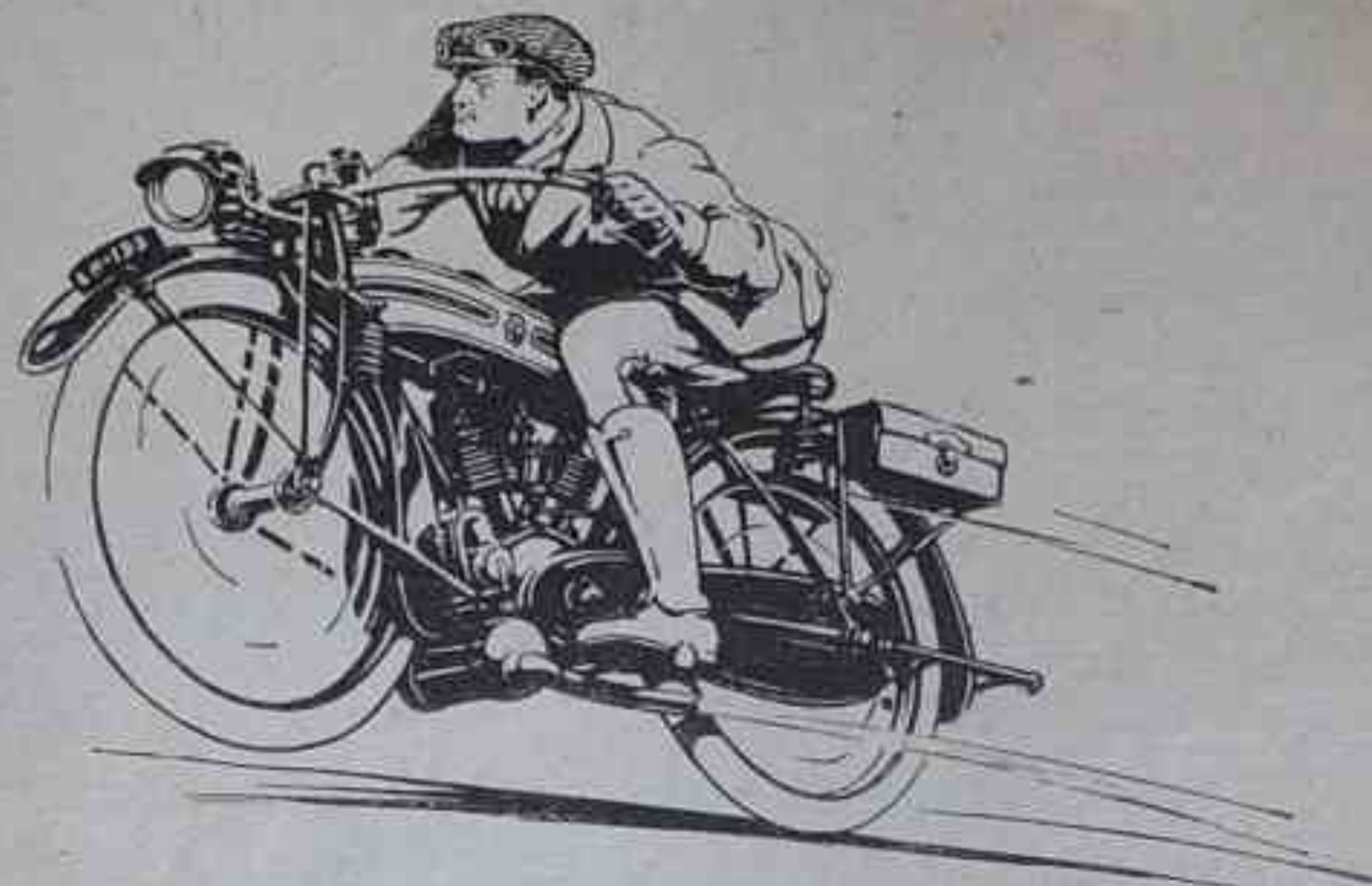
The S.E.C.M., a newcomer in the French motorcycle industry, is showing a 10 h.p. machine with two parallel cylinders, and fitted with an automatic starter which is worked from compressed air generated by a foot pump. It has a cardan shaft transmission, suspended frame, disc wheels and lighting dynamo.

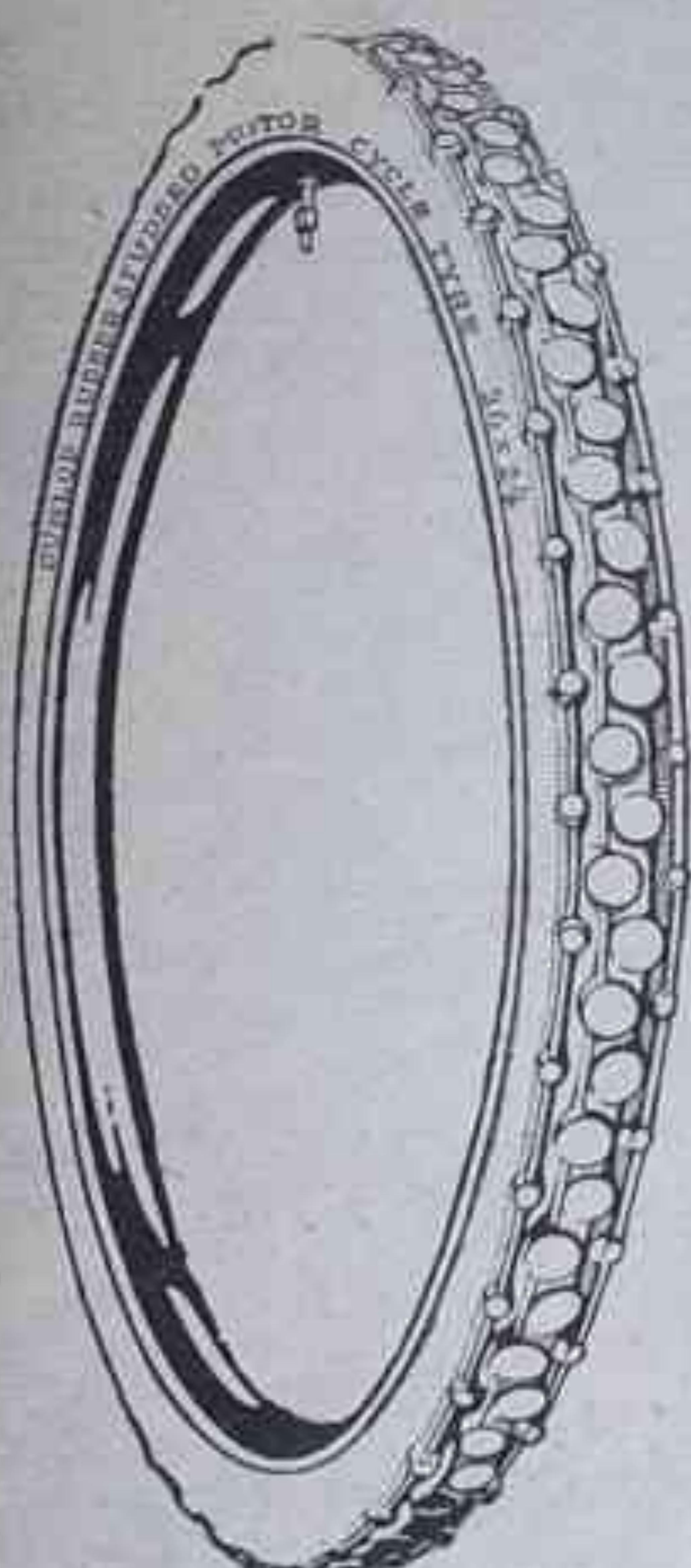
The new 6 h.p. Peugeot which has recently passed its road trials will also be worth seeing. The Louis Clément is a newcomer with a 4½ h.p. twin-cylinder engine, three speeds, and is chain driven. The Janoir is an 8 h.p. horizontally-opposed twin with three speeds and fitted with dynamo lighting. This machine is really specially built for tandem work. The 3½ h.p. twin-cylinder Blériot machine will also be on view and is well spoken of. Etablissements Lumen are showing a 2 h.p. lightweight machine and a 1½ h.p. Auto-Wheel.

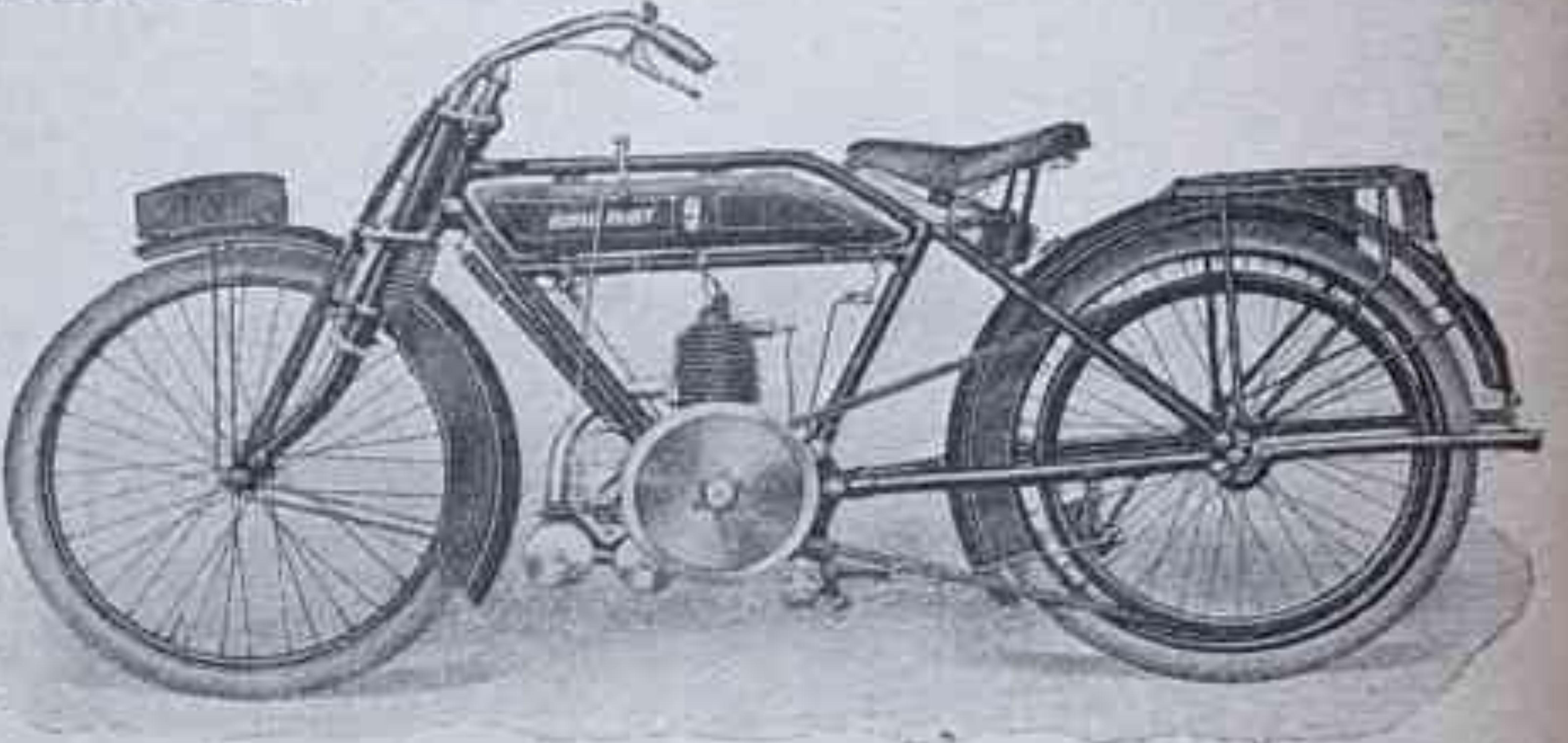
Rear view of the French Georges Levy entered in the Six Days' Trial. Note the D.A. cylinders.

The American firms will be represented by the Excelsior, Harley-Davidson and Indian motorcycles. The Harley-Davidson have announced their intention of showing both the 8 h.p. V-twin-engined machine and the new 6 h.p. horizontally-opposed sporting model.

Motosacoche and Condor will be the Swiss representatives. The Condor, a 2 h.p. lightweight, is sure to attract attention. The 4 h.p. single-cylinder Bianchi comes from Italy, and the Belgian F.N. will again attract the attention of the four-cylinder enthusiasts.







The Editors Correspondence

The Editor is not responsible for, neither does he necessarily agree with, the views taken by correspondents. Both sides of any topic are given equal publicity. A pen-name or initials can be given for publication, but the writer's full name and address must always be sent. All communications should be written on one side of the paper only and be in ink. Envelopes should be clearly marked "Correspondence."

INSIDE OR OUTSIDE FLYWHEELS?

The Case for the Outside Flywheel.

I recollect that some years ago the outside flywheel was the talking point of two prominent manufacturers of four-stroke engines, but it is doubtful whether the popularity of either of these engines was due in any great measure to this feature. In later years we have become accustomed to two types of engine that, invariably, with the exception of the Scott, employ the outside flywheel. Horizontally-opposed twins and two-strokes, the types in question, are remarkable, among other things, for the variety of design displayed in the flywheels utilized.

The pros and cons of the outside flywheel have always been of academic, if not of practical, interest to motorcyclists. The main issues are points of fact, not of opinion, but there are many side issues that render controversy not only possible but almost inevitable.

The main facts may be summed up thus:—Built-up flywheels, being double, may be of greater weight for the same diameter than a single outside flywheel, and impose very little tendency to "whip" on the crankshaft. On the other hand, they make the crankshaft unnecessarily large, and unless considerable space is left between their rims and the crankcase, the oil friction causes drag. Again, there is always a tendency on the part of built-up flywheels to run out of truth, one being slightly in advance of the other, owing to the difference in load on each flywheel, i.e., taking them singly. On one there is the load of the whole machine, and on the other the load imposed by the driving of timing gear and magneto. So far as the outside flywheel is concerned, the only real limit to its diameter is road and tank clearance. In practice, the weight may be actually less than two built-up flywheels, thus saving engine weight, apart from the smaller and lighter crankcase. Yet the flywheel effect may be the same, because the weight acts at a greater distance from the axis of rotation. The "overhung" position of the outside flywheel sets up a slight tendency to "whip" in the crankshaft, but a solid forged steel crankshaft is far better able to withstand this tendency than one that is built up. In practice, this "whip" is as mythical as the torque that certain lovers of the big single imagine to be inflicted on h.o. twin enthusiasts by the slight deviation in cylinder centres inseparable from two-throw crankshafts.

Looking at the whole question from the standpoint of development, it seems to be indicated that the lessening throughout the engine generally of weight per horse-power, suggested by aero engine achievement, must be fulfilled in part by the more extensive employment of the outside flywheel. When we consider that flywheels and magnetos account for so much of the weight of present motorcycle engines, it is evident that a great deal of lightening could be effected with far-reaching results, inasmuch as the weight of machine limits embracing comfortable handling and economical tyre bills may still be kept in in spite of fitting larger engines.

Mention was made of side issues in the comparison of built-up and outside flywheels that are points of opinion rather than of fact. Little need be said beyond stating the more common of the points raised. Many riders hold that outside flywheels are always in the way when making adjustments, etc. As they are invariably placed on the blind side of the engine, this objection is not of much weight. Oil slinging and "ringing," or otherwise intensifying the mechanical noises of the engine are also given as objections to outside flywheels.

New Brighton. "REVS."

A Handlebar Windscreen.

We are enclosing photographs of our new motorcycle windscreen, which we are manufacturing, patent No. 20,917/19. The screen has been designed by riders with good road experience, to satisfy a long-felt want, as goggles have never been satisfactory. The screen is not unsightly, and does not spoil the appearance of the machine. There are seven different models from which to choose. The photographs show model A, which is telescopic and can be adjusted to any angle, or taken off the machine, if required, by simply undoing a wing nut. There is practically no wind resistance. The feature of this screen is that, being fixed on the top tube of the motorcycle, a straight vision in front is maintained when turning corners. All wind, dust, and flies, etc., are directed away from the face. Ordinary glass is fitted, but, if required, Triplex safety glass can be fitted.

Per Pro NATIONAL MOTOR CO.,
W. MUDDELL.

48, Bath Row, Birmingham.

The handlebar windscreen patented by the National Motor Co.

Road Guides.

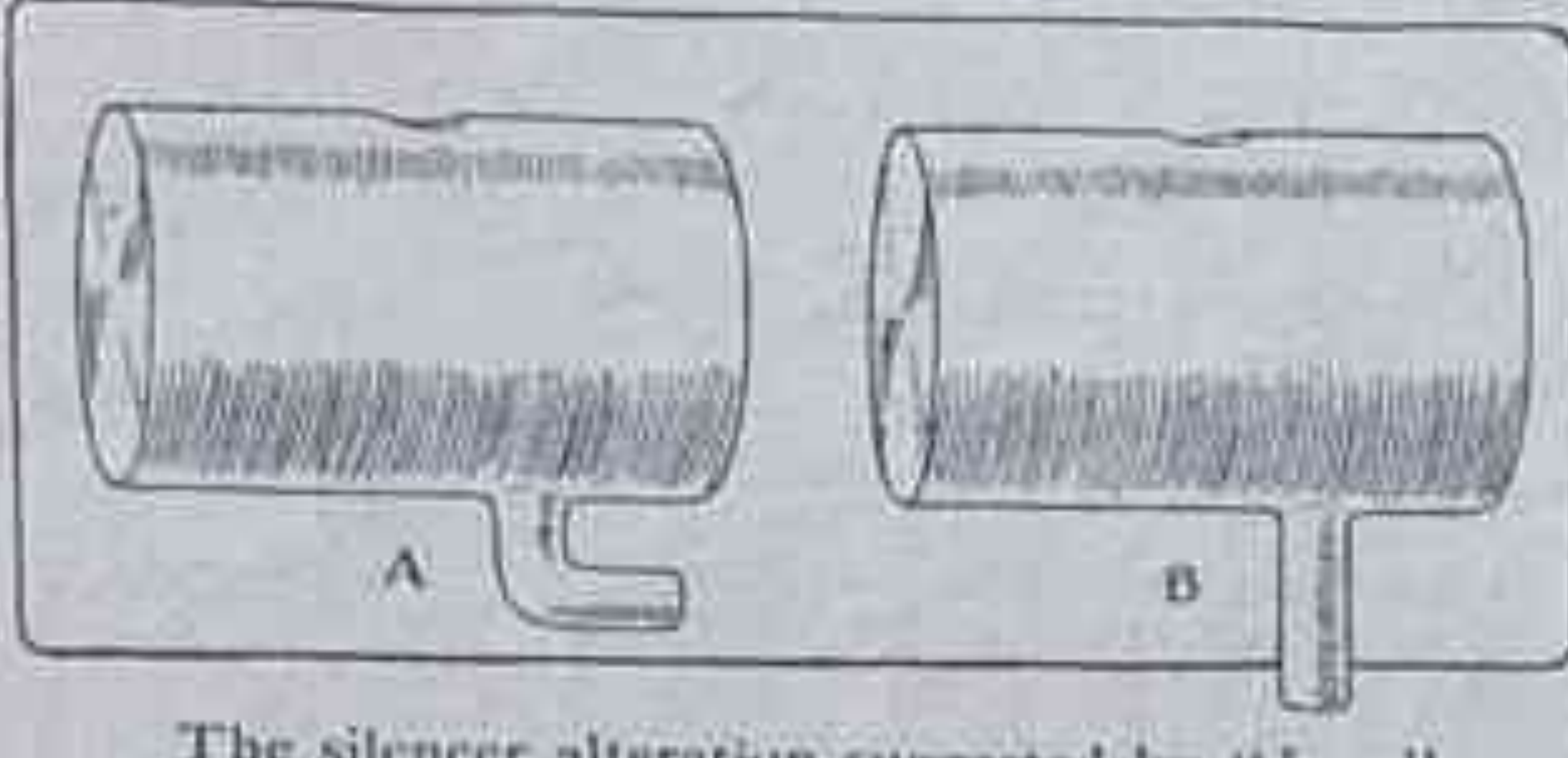
Having seen the correspondence in your paper re the A.-C.U. road guides, I feel I cannot let pass some of the remarks of those people who do not appear to have sufficient sense to understand how the "Get-you-Home Scheme" can be worked without the personal assistance of the R.A.C. guides. Capt. Long's remark in connection with this is really extraordinary, and one might have expected something better from this gentleman. I have been a very satisfied member for a considerable time. A. CHAPMAN PAYNE.

Eccleston, Chester.

Correspondence (contd.).

Praise and Criticism of the Scooter.

A few remarks on the Autoglider scooter as recently described in your journal. As a prospective buyer of a machine on the lines of a scooter the Autoglider meets my requirements better than any of its rivals, by reason (1) of its greater power, which would enable longer distances to be covered, and (2) better weight distribution, the weight of the power unit being on the front wheel, while the weight of the rider falls on the back wheel.



The silencer alteration suggested by "Lex."

In an ordinary two-stroke, when the release valve is opened, the exhaust products splash over the frame, but I notice that this is effectually prevented in the Autoglider.

The short pipe conducting the burnt gases from the silencer to the open air is, however, capable of improvement, for its outlet is directed as in A. If it was directed downwards as in B, the burnt gases would impinge on the roadway. They would then be less likely to be blown back to the rider, not to say anything of the advantage of dispensing with the bend in the pipe.

For the convenience of novices an automatic carburetter should be optional.

In my humble judgment the Autoglider should have a large sale.

LEX.

Golder's Green, N.W.

A Coil Sprung Sidecar.

With reference to the correspondence on coil springs for sidecars, we consider we have gone even one better than your Derby correspondent's suggestion, by using coil springs solely. Over the roughest of roads this system has been proved to be far in advance of "C" springs.

On the "Colbro" sidecars the body is suspended on bell-crank levers, in conjunction with coil springs under tension. With the sidecar empty body bounce is quite absent, thus making the negotiation of corners much safer.

We should be pleased to answer any inquiries from your readers who are interested in this springing system.

1, Railway Buildings, South Norwood, S.E. 25.
GEO. COLLETT, For COLLETT BROS.

Twist Grip Control.

There is much ado amongst the motor trade regarding the free importation of American motorcycles, which appear to have a large goodwill in this country. May I suggest that this is partly due to the popular twist grip control. If properly designed, this type of control is delightful for traffic work and even for long-distance touring, since it allows the hand to assume a restful position of continuous grip of the handle.

I think it would be in the interest of British trade to publish this letter, and invite opinions from other readers. Being myself extremely keen on this type of control, but not very keen on American machines, I have, with the assistance of my brother, designed and made a twist grip control to fit any motorcycle with Bowden wire throttle control. We now wish to get in touch with a manufacturer who could copy the idea for others, hoping, at the same time, that someone will invent a single lever carburetter as good as the Indian or Schebler.

I think that if these two fittings were successful and were really supported by the trade, there would be less demand for American stuff in England and the Colonies. If I am wrong can anyone point to any other part in the American machine which is the cause of its popularity? I doubt it.

C. W. PIDCOCK.

25, Park Avenue, Hampstead, N.W. 3.

Good Service Appreciated.

I should like to comment on the speedy delivery of spare parts by Norton Motors, Ltd., of Birmingham. I recently had occasion to order a piston, gudgeon pin, and small-end bush, as well as various other small parts for my 1915 machine. I received the whole consignment within nine days. I consider this to be highly creditable at times like the present. The usual disclaimer.

BL6088.

A Sporting Offer.

I notice in *Motor Cycling* under "Information and Advice" a query from "J.S." (Doncaster), who has a leaking float chamber. I had the same trouble with the Amac on my 2¾ h.p. Douglas, but found it was not due to a wrong level of petrol, as you suggest in your reply, but to a leaking joint at the bottom of the barrel of the float chamber and where the jet holder clamps the chamber to the main body. I had this joint resweated in and soldered on the outside, which cured the leak at once. If "J.S." cares to call at my address I will show him my carburetter and tell him where I had it repaired.

F. L. ATKINSON.

9, Avenue Road, Doncaster.

GARAGE EXPERIENCES.

Torquay Garages.

In your journal lately I have noticed correspondence regarding service in garages. As motorcycle touring is very popular in Devonshire, and Torquay a favourite centre, I would like to draw attention to the excellent service at Dovey's Motor Works, Union Street. This concern stock an extraordinary number of spares and accessories, besides being extremely civil and prompt in their business. I may add that I know Torquay well, and there are some garages there to avoid.

"RUDGE-MULTI."

Bath.

Garage Incompetence.

Allow me to give an illustration of the incompetence of certain garages. My machine, a 4 h.p. Triumph, misfired badly over 30 miles per hour, so I took it to a so-called garage in Southport. They adjusted the carburetter and said the machine would be all right if fitted with new valve springs. This I had done, but it did not make the slightest difference to the machine.

Next day I took it to another garage. They also "fiddled" with it unsuccessfully, but charged 10s. If this is the sort of thing motorcyclists who live in Southport have to put up with, then they have my deep sympathy.

A. BARROW.

58, Windsor Road, Southport.

G. Benson, on his Auto-Glider scooter, was invaluable at the Luton Hoo Speed Trials, carrying messages from one end of the course to the other.

Correspondence (contd.).

Garage Gluttons.

My experience with a garage not a thousand miles from King's Cross may be the means of preventing another motor-cyclist from indulging in such service. The throttle spring of my B.S.A. carburetter snapped, and, as the magneto wanted cleaning, I took the machine to a garage and asked them to remove the spring and the magneto. I purchased a new spring myself, and got the magneto overhauled, and brought both articles to the garage for fixing. I also had the numbers painted on the number-plates back and front, and was then presented with a bill for £3 5s. 6d., the chief items being repairs to carburetter £2 10s., and painting numbers 10s. I enclose the actual account, duly stamped and receipted. This firm had merely to remove the old carburetter spring and the magneto and replace same.

When I mildly protested, the only response was that they had lost money on the job.

Can any of your readers beat this? SIMPLETON.

Alton, near Birmingham.

AT THE LUTON HOO SPEED TRIALS

J. V. Prestwich, who put up a good performance on his Diamond J.A.P.

Tricky Trading.

I think that the following experience is worth putting on record, if only as a warning to the ever-increasing army of novices who are now on the road. I recently called on one of the oldest-established dealers in London for a couple of 85.5 mm. J.A.P. piston rings. These they had in stock, and I was asked 7s. 6d. each. I, of course, refused to purchase at this ridiculous price. Returning to my office, I found that the list price of the rings was 2s. each, plus the current percentage of 20 per cent. and 30 per cent., making a total of 3s. 2d. per ring.

I rang up the firm in question and pointed out the correct price, and I was then quoted 4s. 3d. each, but later in the day I discussed the matter with the buyer, who agreed that the correct price should have been 3s. 2d. Methods of this sort will hardly improve the reputation of any firm.

In conclusion, I should like to advise those of your readers requiring J.A.P. spares to pay a personal visit to the J.A.P. works, where satisfaction, promptness, and civility can always be relied upon. SIDNEY C. HERSEY.

37-38, Norfolk House, Norfolk Street, Strand, W.C. 2.

Dr. Low Replies to Captain Long.

A brief reply to Captain Long's letter in last week's *Motor Cycling*. Carburation is a very variable quantity, and carburetters are very variable pieces of mechanism. As a matter of fact, there are conditions of engine temperature, momentary flooding, air temperature, and scavenging. These are only a few of the causes which result in constantly varying consumption. For example, a machine travelling at a consumption of 100 m.p.g. is frequently averaging 150 m.p.g. or 200 m.p.g., and sometimes only 50 m.p.g.

Consumption under conditions requiring small horse-power will sometimes be exceedingly low, as can be checked on a flowmeter, but, possibly, the machine in question would never repeat such a performance six times, or even twice, successively.

The Wooler machine is very efficient, but no one would expect ideal conditions of thermal and mechanical efficiency to remain constant for even a few minutes on end.

The performances put up by Messrs. Douglas and Hudson were not so extraordinary. Over a longer distance they might do far worse, and for shorter periods they might do better.

Surely a 40-50 h.p. Rolls-Royce car, weighing about two tons, and running 24 odd miles on one gallon over a long and hilly course is more wonderful still. This can be checked by a reference to the official R.A.C. records.

A. M. LOW, Major R.A.F., A.C.G.I., etc.

Hotel Metropole, Llandrindod Wells.

Manufacturers' Handbooks.

"Tourist" last week talks about studying makers' handbooks. A very excellent idea if one can get hold of one. I recently purchased a new Triumph, but was unable to obtain any directions as to its management.

The London depot of the Triumph Co. informed me that they did not expect any more would be printed. I wrote to Coventry, and they sent me a 1915 catalogue! I did not even know what oil to use. The London depot told me to use Mobiloil T.T., but I have since discovered that this was used for the 1916 model, and that the 1919 model requires B.B. C.M.

—and E. Kickham, the famous Douglas exponent.

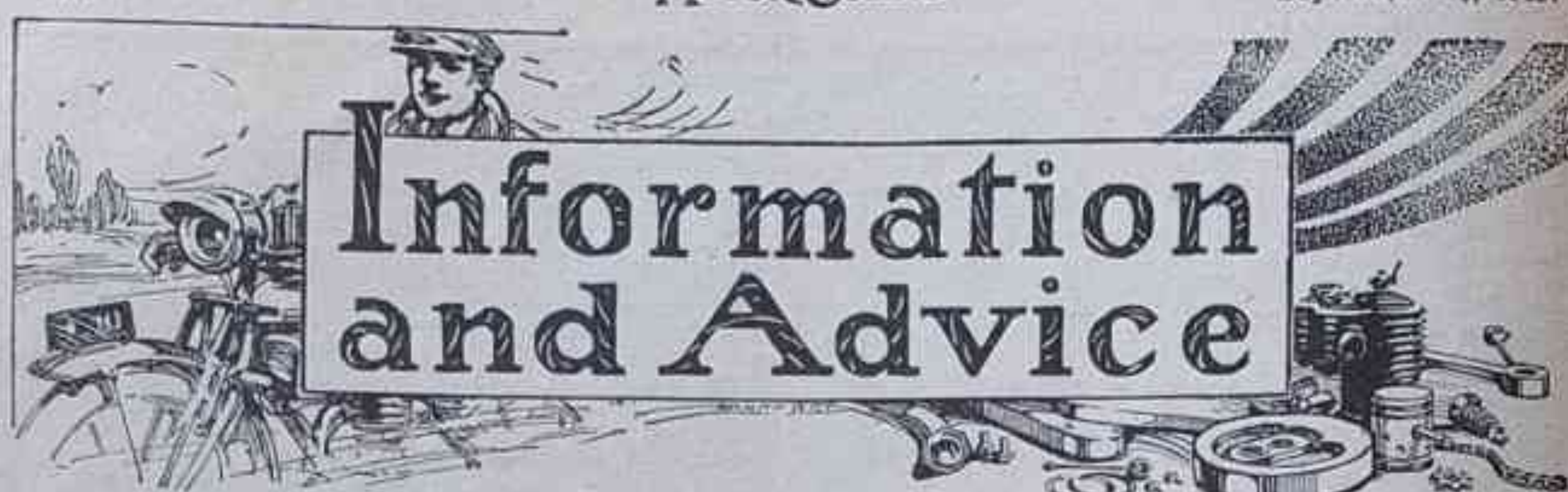
Dr. Low's Petrol Consumption Test.

Surely Capt. Long does not expect to receive an affirmative answer to the query raised in his letter in your issue of September 17th? I am surprised that such an eminent scientist as Dr. Low should give the "backing" of his name to a result obtained in this manner.

It is fairly obvious that, as nothing was said in the reports of the trial as to the float chamber being flooded at the end of the very short test run, as well as at the beginning of same, the excess amount of petrol in the float chamber, caused by the flooding, over that normally contained was not taken into account. If the float chamber had been sufficiently large, it seems to me that the apparatus might easily have shown that no petrol at all was used, which is, of course, an absurdity.

It would, no doubt, be interesting to many of your readers if Dr. Low would point out where the above criticism is unfair. If unable to do so, the Ealing Club will be well advised to withdraw the certificates awarded and organize a fresh trial on more satisfactory lines. EDGAR REWN.

Birmingham.



RULES.—Requests for information and advice must be forwarded in envelopes marked "I. and A.," a stamped addressed envelope being enclosed for the reply. Questions, and machines upon which an opinion is sought, should be numbered and a copy kept for reference. Touring and legal questions must be kept separate from technical matters. Readers are asked to refrain from making inquiries on the telephone. A selection from the replies is published each week.

Q Will you kindly give me the following information: Required to find the mechanical efficiency of the following: A motorcycle rated at A b.h.p., weighing B lb., travels up a hill of known incline for a distance of C feet in D seconds.—M.H.P. (Maidstone).

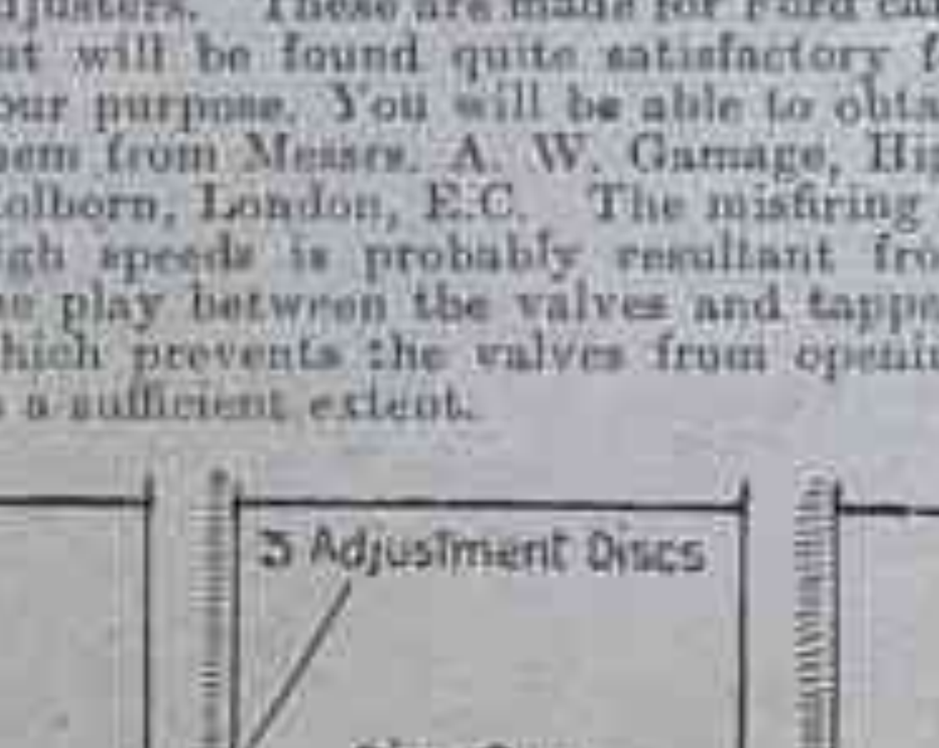
A It will be necessary to work out the actual distance which the machine lifts itself on the known gradient, and let that be represented by Y feet. Then B lb. are lifted Y feet in D seconds. Now, it takes 1 h.p. to lift 550 lb. 1 ft. in 1 second, therefore $\frac{B \times Y}{550 \times D}$ will equal the number of h.p. developed in this case, and the mechanical efficiency of the machine will be the answer to this equation divided by the rated h.p. This, of course, makes no allowance for frictional losses. The total weight of the machine, that is, including the rider, should be taken into account in valuing B.

Q Will you please advise me on the following: I have an 8 h.p. J.A.P. combination, the rear cylinder of which is broken, and I am at present unable to obtain a new one, but have succeeded in getting hold of a second-hand one, which has evidently been re-bored; at any rate, it is about 1-32 in. larger than the old one. In addition, the piston of this cylinder is about ⅛ in. shorter than the old one. It is also heavier, and has only two rings to the other one's three. Will you please tell me (1) if it is advisable to fit this cylinder and piston in place of the old one, and (2) there is no grub screw hole in the gudgeon pin boss, although there is one on the pin itself. Is there any danger of scoring the cylinder during the short time that this odd cylinder and piston will be in use?—A.M.S. (Tooting).

A (1) Before using the odd piston and cylinder it will be necessary to reduce the weight of the piston to that of the piston previously in use. To do this you could turn a little off the skirt of the piston or drill holes at regular intervals in the sides. Provided that you get both pistons the same weight, no harm will result. (2) It will be necessary to drill and tap a hole in the gudgeon pin boss and fit a grub screw, otherwise after about 100 miles riding the cylinder will in all probability be badly scored.

Q I have a new 2½ h.p. motorcycle, and I only get about 80 m.p.g. from it. The valve tappets are not adjustable, and there is ⅛ in. play between the inlet valve and the tappet and $\frac{1}{16}$ in. between the exhaust valve and the tappet. Is there anything that I can do to take up this play? The engine misses at high speeds. What is the probable cause of this?—J.D. (Blackburn).

A 80 m.p.g. is quite reasonable for a 2½ h.p. machine. Fitting a smaller jet to the carburetter might possibly give better results. To take up the play between the valves and tappets we should advise you to fit Allford valve adjusters. These are made for Ford cars, but will be found quite satisfactory for your purpose. You will be able to obtain them from Messrs. A. W. Gamage, High Holborn, London, E.C. The misfiring at high speeds is probably resultant from the play between the valves and tappets which prevents the valves from opening to a sufficient extent.



How to apply Allford valve adjusters.

Q I have a 3½ h.p. machine and have done about 3,000 miles, and have had no trouble whatever. About three weeks ago, however, the exhaust valve broke near the top of the stem, since then two more have broken in doing about 50 miles. I took the machine to a garage, and was informed that the valve seating required cutting or the valves would continue to break.—F.W.R. (Shawforth).

A The trouble is undoubtedly brought about by the seating of the valve, which has probably worn irregularly or been damaged by the broken valve. We think that the best thing that you can do would be to remove the cylinder and forward it to the makers of your machine, who will be able to cut a new seating.

Q (1) I have a 6 h.p. 1916 machine fitted with a Dixie magneto. I cannot get a spark from one of the magneto terminals. The plugs, high-tension cables, etc., are all right, and a good spark is obtainable at the back cylinder. The spark at the front cylinder is very weak, and it is only noticeable when the engine is running quickly. (2) When starting away the engine will not pick up until I open the air lever a quarter. (3) The engine seems to overheat and knocks rather badly, especially when changing to high gear, and will not take any more extra air than when the throttle and air levers are level with each other except at high speeds, when I drive on full air.—R.B. (Walthamstow).

A (1) The failure to spark at the front cylinder may be brought about by a worn cam at the contact breaker. If this is not the case we should advise you to send the magneto to the American Supplies Co., Ltd., 162, Great Portland Street, London, W., who will be able to repair it. (2 and 3). From the particulars you give it seems to us that too large a jet is fitted to the carburetter, and that there are air leaks at the induction pipe joints. We should advise you to race the engine a trifle in low gear before changing up.

Q Will you kindly tell me if there is a ferry boat across from Tilbury to Gravesend, or any other means of conveying a solo motorcycle across the Thames at or near that point? It is my desire to travel from Chelmsford to Sevenoaks, avoiding London.—O.T. (Chelmsford).

A The Midland Railway Co. run a ferry between Tilbury and Gravesend, a charge of 4d. is made for a motorcycle.

Q Can you tell me if I can convert a single-cylinder two-stroke magneto into one suitable for a horizontally opposed four-stroke. The magneto is a late pattern Dixie, gear-driven, clockwise.—W.L. (Sheffield).

A It will be necessary to run the magneto at half the speed necessary for the two-stroke engine, and to fit another cam opposite to the present one.

MOTOR CYCLING MART

NOTICES.

"MOTOR CYCLING" is published in London every Wednesday morning.

HEAD OFFICES—7-15, ROSEBERY AVENUE, LONDON, E.C. 1. Telephone—Holborn 5292 (four lines). Telegrams—"Motor Cycling, Phone, London."

MIDLAND OFFICES—9 & 10, Burlington Chambers, New St., BIRMINGHAM. Telephone—No. 2498 Midland. Telegrams—"Presswork, Birmingham." 6, Warwick Road, COVENTRY. Telephone No. 983 Coventry. Telegrams—"Presswork, Coventry."

NORTHERN OFFICES—196, Deansgate, MANCHESTER. Telephone No. 2467 Central. Telegrams—"Presswork, Manchester."

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All words in name and address are charged for.

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All Advt. orders are subject to confirmation in writing from the Head Offices.

All Advertisements and Contracts are accepted and made upon the express condition that the Publishers have the absolute right to refuse to insert copy to which they may object for legal, public or trade reasons, and such refusal of copy shall not be a good ground for advertisers to stop a current contract or to refuse to pay for the same or for taking action for breach of contract. Advertisements received too late for insertion in the issue then closing for press will—unless accompanied by express instructions to the contrary—be inserted in the following issue. Whilst every precaution is taken to ensure accurate printing, the Publishers will not be responsible for printers' errors, nor will they be responsible for advt. blocks that are left in their possession for more than one year.

All Communications respecting "Advertisements" must be addressed to "The Manager," "MOTOR CYCLING," 7-15, Rosebery Avenue, London, E.C. 1.

Advertisers desiring to have replies sent care of "MOTOR CYCLING" may do so on payment of a nominal fee of 6d.

DEPOSIT SYSTEM.—The intending buyer forwards to our office the amount of the purchase money, which will be acknowledged to both parties. Notes or Money Order save time. Money Orders should be made payable at the Money Order office at 114 Farringdon Road, E.C., and drawn in favour of Temple Press Ltd. Cheques must be made payable to Temple Press Ltd. and are acknowledged to seller when "cleared." If a sale is concluded we forward to the seller the amount agreed upon. If no sale is made we return the amount deposited. In either case we deduct a commission of 1½% (3d. in the £, minimum 2/6) on the amount deposited, to cover our expenses of booking, postage, etc. Carriage is to be paid by the buyer. If the article is returned, each party pays one way. The risk of damage in transit is the seller's. Articles on approval are not to be retained more than three days, unless by arrangement between the parties. All disputes to be settled by the arbitration of the Editor of "MOTOR CYCLING," whose decision shall be final and binding on both parties.

Other Business and Editorial Notices will be found on the last page of this section.

MOTOR-BICYCLES.

—**A.B.C.** Earliest deliveries; your name on our list ensures this. Martin Mitchell, Ld., Stafford. 555-388

—**A.B.C.** Early positions on our waiting list occasionally become vacant again owing to clients preferring immediate delivery of other makes; probably it is well worth your writing us; large July deliveries expected, 300 due this season. Dunwell's Garage, Wigan. zzz-769

—**ABINGDON** King Dick, 1914, 4hp., 3-speed, clutch, lamps, horn, etc., good sidecar machine, £36. 3 Appian Rd., Bow, London. 515-a236

—**A.J.S.** Exeter Motor Cycle and Light Car Co., Bath Rd., Exeter, and 28 Tavistock Rd., Plymouth—Sole Agents. Now booking for earliest deliveries. zzz-393

—**A.J.S.** specialists and agents. The Walsall Garage, Walsall. Tel. 444. 515-296

—**A.J.S.**, 1915, 6hp. combination, unused for 2½ years, excellent condition, 2 large headlights, speedometer, spare wheel, chains, valves, etc., £130 or near offer. Dalzell, 25 Beaumont St., Oxford. 515-d173

—**A.J.S.**, brand new, 6hp., 3-speed military model, best offer, also Sunbeam sidecar to match, £32, any time. 29 St. Leonard's St., Bromley-by-Bow. 515-a211

—**A.J.S.**, 6hp., M.M. combination, Sunbeam sidecar apron, tools, pump, bought new end August, privately owned, £175. Seen, Elce, Bishopsgate Ave., Camomile St., E.C. 515-557

—**A.J.S.**, 1919, 2¾hp., not yet ridden, just delivered, makers' guarantee, etc., bargain, £125 or offer. Cunkey, 6 Manchester Rd., Thornton Heath, Surrey. 515-a446

—**ALLDAYS**, Roc 3-speed, Bosch, B. and B., free engine, clutch, new piston, big-end brasses, heavy Dunlops, new rim on back wheel, stored during war, £42 or offer, bargain. Sampford, North St., Southminster, Essex. 515-b13

—**ALLDAYS ALLON**, new, model de luxe, 2-speed and clutch, in stock for immediate delivery; extended payments if desired. Harrods Motor Showrooms, 116-118 Brompton Rd. (opposite Main Building), London, S.W. 1. 515-361

—**ALLDAYS ALLON**, 1917, 2-speed clutch model, 2¾hp., splendid condition, perfect running order, £50. 4 Station Rd., Winchmore Hill, N.; evenings. 515-b27

—**ALLDAYS ALLON**, 1916, 2-speed, clutch model, tip-top condition throughout, fully equipped, £55. Parker's, Bradshawgate, Bolton. 515-6

—**ALLON**, 2¾, 2-speed, 1919 (August), Klaxon, insurance, lamp, nearest £70. 21 Goodwyn's Vale, Muswell Hill. 515-b26

—**ALLON**, 1916, 2-stroke, 2-speed, speedometer, horn, lamps, £58, offers; after six. 30 Vicarage Road, Watford. 515-a122

—**ALLON**, 2-stroke, 2¾, 2 speeds, first-class condition, £55. Gleave, Davenport St., Macclesfield. 515-a204

—**ALLON**, 1919, 2-speed clutch model, indistinguishable from new. Parker's, Bradshawgate, Bolton. 515-2

—**AMERICAN EXCELSIOR** inquiries. Lancashire, Cheshire, North Wales, Isle of Man only. J. Blake and Co., Official Dealers, Liverpool-Manchester. zzz-403

—**ARIEL**, 1915, 3½hp. combination, 3 speeds, clutch, excellent condition, fully equipped, £70. 256 Hertford Rd., Lower Edmonton. 515-a443

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1919 TRIUMPH, BRAND NEW, VERY HANDSOME OUTFIT	£145
1919 DOUGLAS, 4 h.p., accessories, indistinguishable from new	155
1919 JAMES, 5-6 h.p., accessories, run under 500 miles	140
1919 HARLEY-DAVIDSON, sporting sidecar, as new	220
1916 HARLEY-DAVIDSON, special sidecar screen, all accessories	150
1918 SUNBEAM combination, M.A.G. engine	155
1916 ROVER combination	110
1915 ROVER and BRAND NEW sidecar	115
1916 ZENITH, 4-5 h.p., and County sidecar, countershaft model	100
1915 THOR, 2-seater sidecar, electric lighting, as new	155
1916 ENFIELD combination	110
1912 B.S.A., and sidecar, splendid condition throughout	75
1914 MORGAN, De Luxe model	150

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1917 TRIUMPH, 4 h.p., countershaft model	84
1916 NORTON, T.T., 3-speed, countershaft model, very fast	90
1914 TRIUMPH, 4 h.p., 3-speed, T.T. bars, excellent condition	65
1915 DOUGLAS, 2¾ h.p., excellent condition	53
1914 DOUGLAS De Luxe model, very carefully used	63
1914 HUMBER, 2¾ h.p., twin, 3-speed clutch	48
1914 TRIUMPH, 4 h.p., 3-speed, excellent condition	62
1915 ENFIELD, 3 h.p., 2-speed	55
1911 TRIUMPH, 3½ h.p., 1914 frame and tank, Phillipson pulley	35

LIGHTWEIGHTS.

SUN-VILLIERS, 2¼ h.p., 2-stroke, 2-speed clutch	£49
SPARKBROOK, 2¼ h.p., 2-speed, T.T. bars, Villiers engine	47
IVY, 1917, De Luxe model, as new	43
CALTHORPE-J.A.P., 2¼ h.p., Enfield 2-speed	46
O.K.-J.A.P., 2¼ h.p., 2-speed, as new	50

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—NEW IMPERIAL J.A.P., 1915-16, 2¾hp, 2-speed, splendid condition, seat, lamps, horn, exchange combination, cash, £47 10s. 39 Crystal Palace Park Rd., Sydenham. 515-b49

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—QUADRANT 1919 4½hp combination, B.S.A. 3-speed, clutch, new last month, condition as new, higher-powered machine previously ordered, 105 guineas or best offer. Rev. Coleman, St. Mark's, Bolton. 515-d741

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—REX J.A.P. 8hp combination, 2 speeds, handle starting, ride away. Lemon, Highbridge St., Waltham Abbey. 515-d760

—ROYAL RUBY, 1919, 8hp, completely equipped, run under 200 miles, excellent condition, owner purchasing car, £140 or near offer. Scott, 91 Herne Hill, London, S.E. 515-b75

—ROYAL RUBY, 1917, 2¾, 2-stroke, T.B. magneto, A.M.A.C. carburetter, completely overhauled, splendid running order, complete with lamps, horn, tools, new belt and tyres, £34 or offers. F. W. Brown, Woodeaton, Islip, Oxford. 515-b40

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—ROVER 1919 Imperial combination, 5-6, twin, in use since July, £145. 25 Broomwater, Teddington. After 5 p.m. 515-b24

—ROVER, 1914, 3½hp, 3-speed, c.-b. sidecar, new condition, £75, or nearest. 2 Manor Parade, Sutton, Surrey. 515-b39

—ROVER, 1915, 3½hp, countershaft, as new, £115. Brown, Gloucester Rd., Kingston Hill, Surrey. 515-a414

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—RUDGE-MULTI, 1918, coach-built combination, 3½hp, almost new, guaranteed perfect throughout, clutch, kick-start, electric headlamp, any trial, £89. Ellam, Farnborough, Kent. 515-d734

—RUDGE-MULTI, 3½hp, and coach-built sidecar, lamps, speedometer, horn, £55. 134 The Grove, Wandsworth, S.W.18. 515-d796

—RUDGE-MULTI, 1919, 5-6hp, Millford sidecar, completely equipped, done 1,000 miles, perfect condition, 130 guineas. 1 Commercial Rd., Burgess Hill, Sussex. 515-a217

—RUDGE-MULTI, 3½hp, 1911, first-class order, £32 10s. Thirkell, Hotel St., Bolton. 515-b23

—RUDGE-MULTI 1919 new combination, genuine Rudge coach-built sidecar, luggage carrier, lamps, horn, private owner, £135 or near offer. Withers, Wisemore St., Walsall. 515-b28

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1917 Rudge Multi, 3½ h.p., coach-built sidecar, as new	£105
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1916, 5-6 h.p. Indian and coach-built sidecar	£120
1915, 7-9 h.p. Indian and coach-built sidecar, 2-speed	£85
1916, 3½ h.p. P. and M. and coach-built sidecar	£105
1916, Twin 6 h.p. P. and M., and coach-built sidecar	£125

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1919, 2-stroke, single-speed Royal Ruby (list price)	£44
1919, 2-stroke, 2-speed, Radco (list price)	£42 10 0
1919, 2-stroke, single speed, Metro-Tyler (list price)	£32 18 0

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—**SPARKBROOK**, new 2¾hp, 2-stroke, single-speed, immediate delivery; extended payments if desired. Harrods Motor Showrooms, 116-126 Brompton Rd. (opposite Main Building), London, S.W. 1. 515-960

—**SUNBEAM**, 1919, 3½, 2-speed sporting model, left factory September 10th, never used as owner lost arm, £130 or nearest offer. Letters only, Advertiser, 26 Prescott St., Halifax. 515-d252

—**SUNBEAM**, 3½hp, Milford sidecar, coach-built, both late 1917, in black and gold, complete with Lucas head, tail and sidecar lamps, 2 generators, horn, mirror, watch, canoe screen, tools, spare tubes and covers, etc., ...tolerable appearance and both in first-class condition mechanically and appearance. £25 worth of spares, £135 lot. Gryman, 32 Gt. Thornton St., Hull. 515-979

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—**SUNBEAM**, 1919½, black and gold combination de luxe, Sunbeam engine, F.R.S., Watford equipment, quite perfect. Reasonable offers about £135 to The Rectory, Streatham, London. 515-b19

—**SUNBEAM**, 1915, 3½hp, coach-built sidecar, lamps, horn, late model, new condition, perfect, £100. 2 Parade, Canterbury. 515-a448

—**SUNBEAM** 1915 6hp combination, windscreen, spare wheel and tyre, luggage grid, Lucas electric lighting and horn, watch, £105, or nearest offer, owner buying car. Bath, 24 Cumberland Place, Southampton. 515-a459

—**T.M.C.** 8-10 combination, 2 speeds, handle start, water-cooled, shaft drive, 1-2-seater sidecar, good in every way, full equipment, minus carburetter, £50. Edwards, Motorcycles, Taunton. 515-971

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—**TRIUMPH** 1913 clutch model, top-hole order, stored during war, £41 15s. Dedil, Tobacconist, Eastbourne. 515-d282

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—**TRIUMPH** 1919 Gloria sidecar combination, with tools, spares, etc., small mileage, perfect running order, almost new condition, £130. Heybourne, Grand Garage, Maidenhead. 515-d721

—**TRIUMPH**, 3½hp, 1913, clutch, heavy Dunlops, new belt, horn, new E.I.C. magneto, any trial, £38 10s., perfect. 220 Old Ford Rd., E. 3. 515-d723

—**TRIUMPH** 1914 4hp combination, 3-speed hub gear, excellent condition, £90. White, 47 Ebers Rd., Nottingham. 515-d750

—**TRIUMPH**, 1915, 3½, T.T., single speed, stored 4 years during active service, tyres and tubes new this year, whole machine in excellent running order, £50 net cash. Seen between 7 and 8 p.m., 326 Hither Green Lane, Lewisham. 515-d755

—**TRIUMPH**, 1919, 3-speed, countershaft, hand clutch, kick-start, lamps, horn, etc., in perfect condition, as new, with 4-point wicker sidecar, very low mileage, must sell, medical reasons, first cheque £110. Wm. Wootton, Gwyn St., Bedford. 515-a224

—**TRIUMPH**, 1911, clutch model, headlamp, Klaxon, tool carriers, etc., any trial, will accept first £40. C. Marden, King's Oak Hotel, High Beech, Loughton. 515-a323

—**TRIUMPH**, 1919, countershaft, Cannelot sidecar, sporting outfit, 120 guineas; also Eagle, 8-10hp, 2 speed and clutch, a racy mount, £75. 21 Oxford Rd., Gunnersbury. 515-a200

—**TRIUMPH**, 1917, 4hp, countershaft, property of a client, £75. Clapham (Motors), 210 King George St., Greenwich. 515-962

—**TRIUMPH**, 1918, 3-speed, countershaft, lamps, horn, practically new, unscratched, perfect, £105. 28 St. George's St., Canterbury. 515-a449

—**TRIUMPH**, 1918, 4hp, countershaft, clutch, kickstarter, as new, bargain, £81. 143 Ravensbury Rd., Earlsfield, London, S.W. 515-a457

—**TRIUMPH** coach combination, 1914, 3 speeds, all on, perfect, £68. 22 High St., Reigate. 515-b47

—**TRIUMPH**, 1919, August, carefully used by expert, everything as new, lamps, Klaxon, tools, many spares, insurance, ride 75 miles to genuine buyer. 45 Althorpe Rd., Wandsworth Common. 515-a453

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—**TRIUMPH**, 1913, 3½hp, 3 speeds, clutch, good tyres, excellent condition, practically unused during the war, any trial, £50. 48 Alexandra Rd., Sheerness. 515-a451

—**TRIUMPH**, 1912, coach combination, 3-speed, clutch, tyres, etc., all good and sound, lamps, tools, Klaxon, mirror, 55 guineas, any trial. 181 Kew Rd., Richmond, S.W. 515-a453

—**TRIUMPH**, 1919, 3-speed, countershaft, Milford sidecar, practically new, beautifully equipped, £125, or best offer, would separate. Skinner, 8 St. George's Avenue, Ealing. 515-a478

—**ZENITH-GRADUA**, 1913 14, 6hp, re-enamelled, like new, £60. S., 12 Townshend Rd., Regent's Park, N.W. 515-a740

—**TRIUMPH**, 1914, 3½hp, and wicker sidecar, Sturmey 3-speed, watertight Bosch, free engine, all in good condition and splendid running order, £75. Box No. 2268, c/o "Motor Cycling." 515-a481

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—**DOUGLAS**, 2¾hp, W.D., 2 speeds, new.

—**DOUGLAS**, 4hp, 1919 combination, new.

—**A.J.S.**, 6hp, 1919 combination, new.

—**INDIAN**, 7-9hp, 1919 combination, new.

—**RUDGE-MULTI** 1919 combination.

—**P. and M.**, 4hp, 1919 combination.

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—**A.J.S.**, 1914, 6hp combination.

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—**DOUGLAS**, 1915, 4hp combination.

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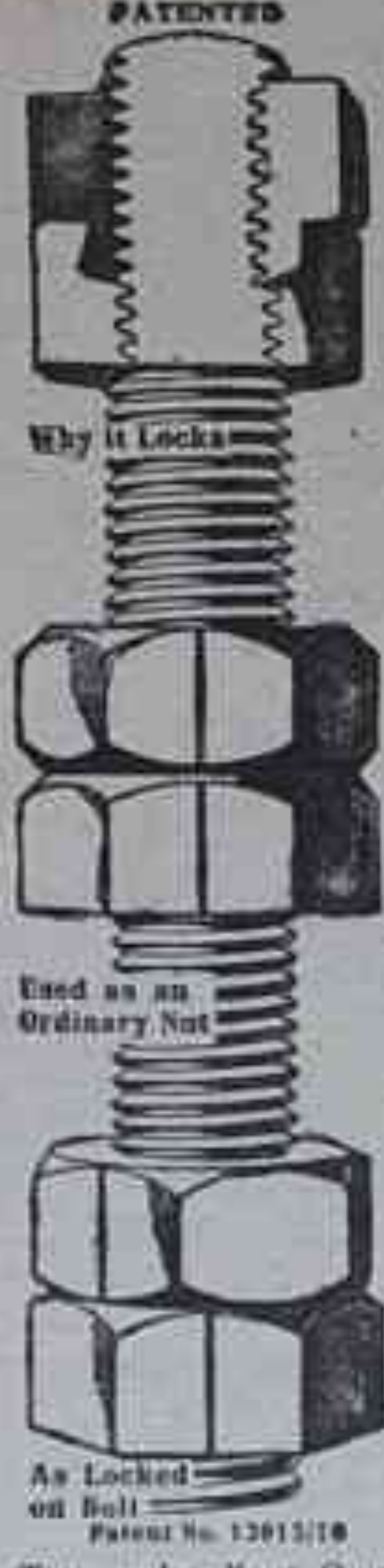

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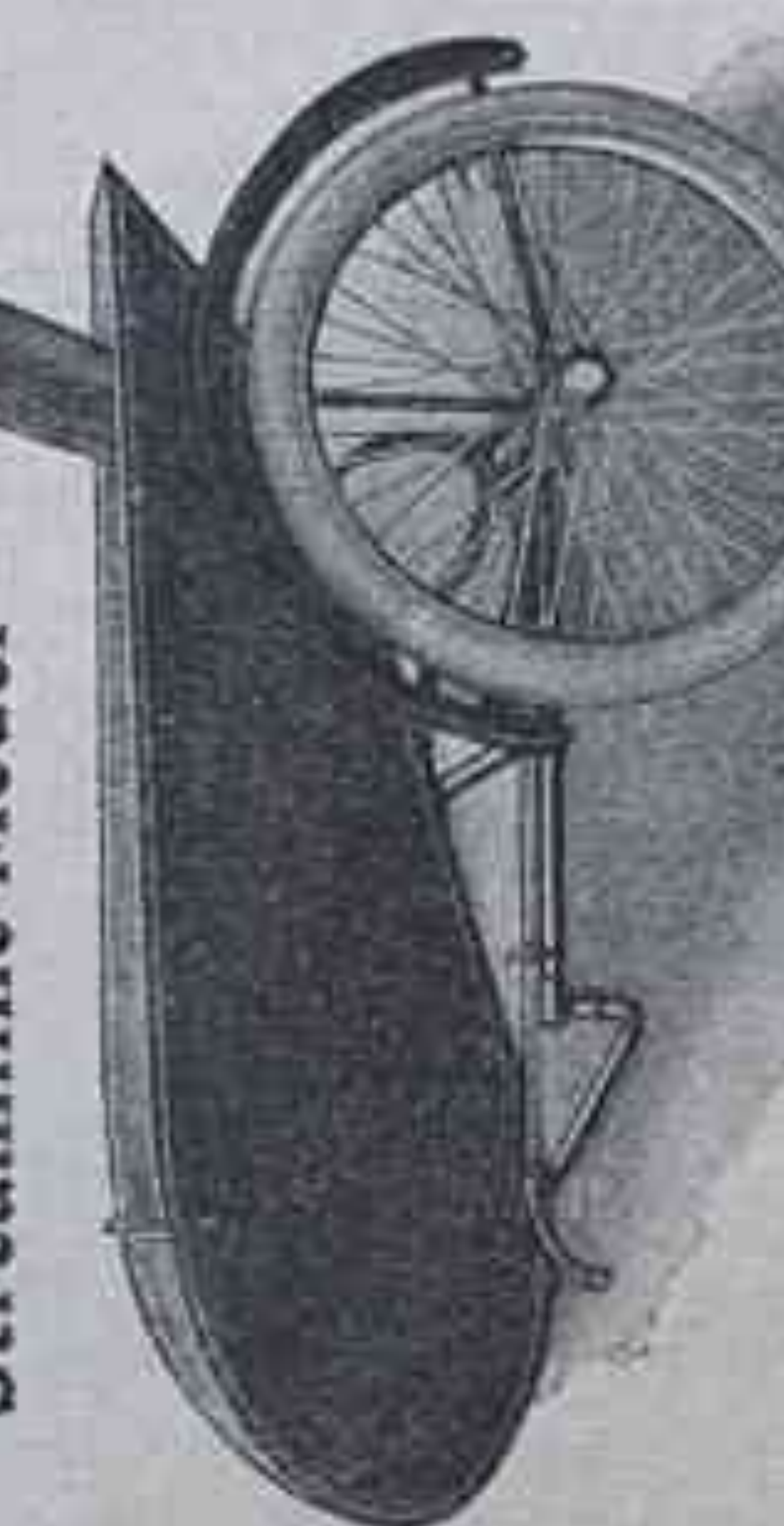

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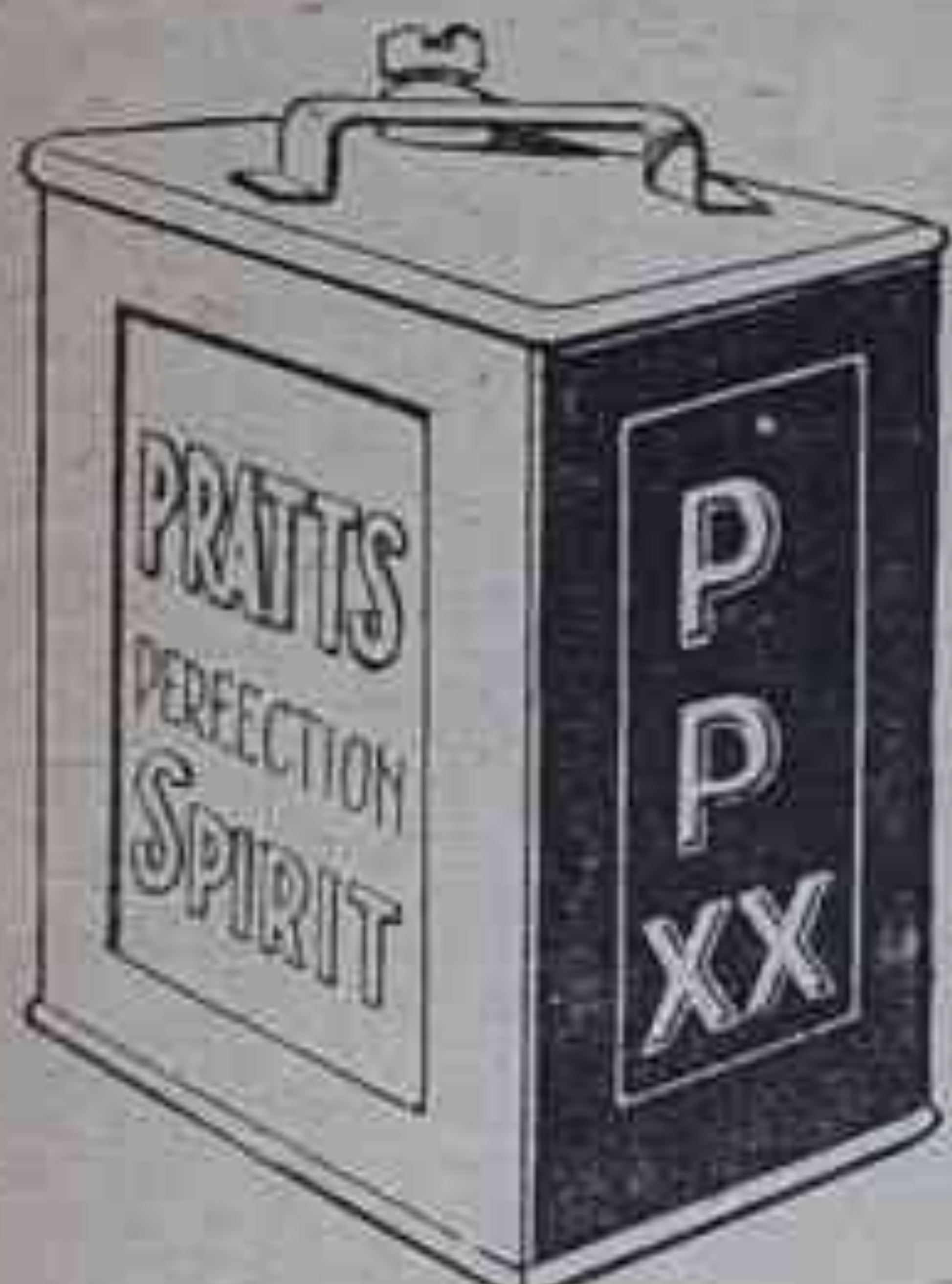

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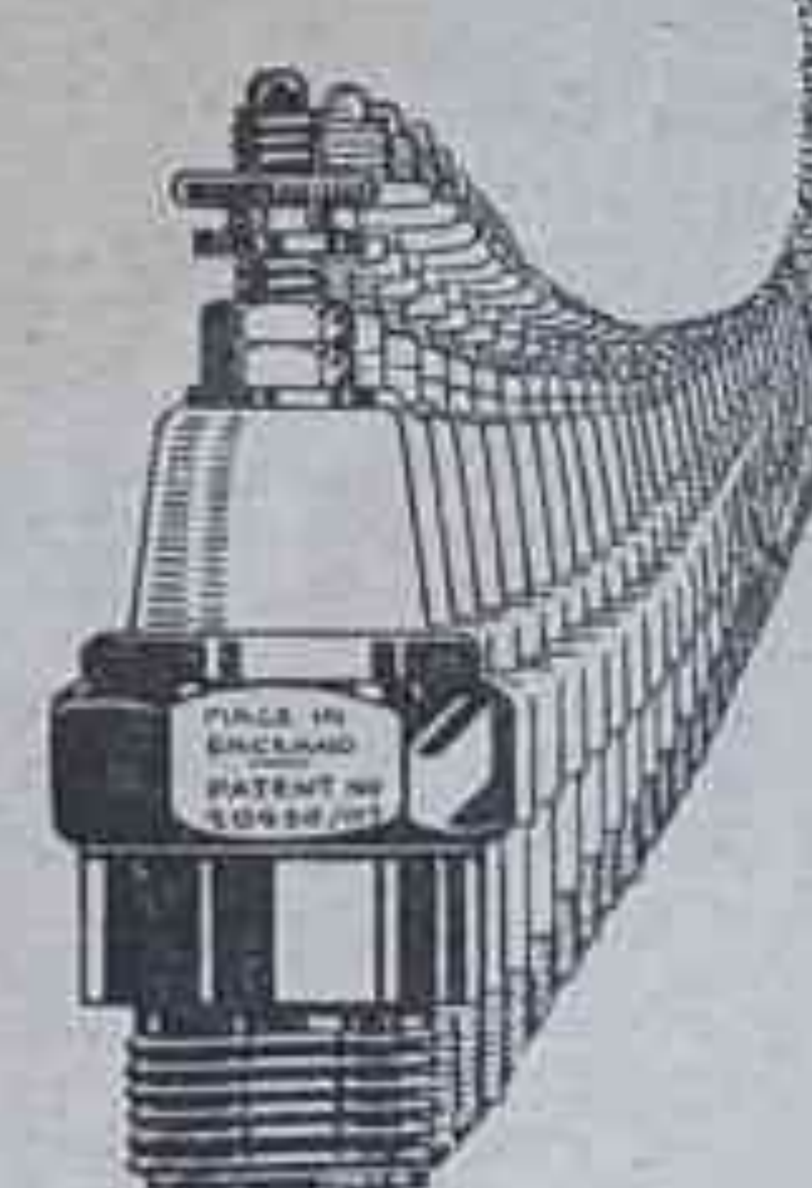

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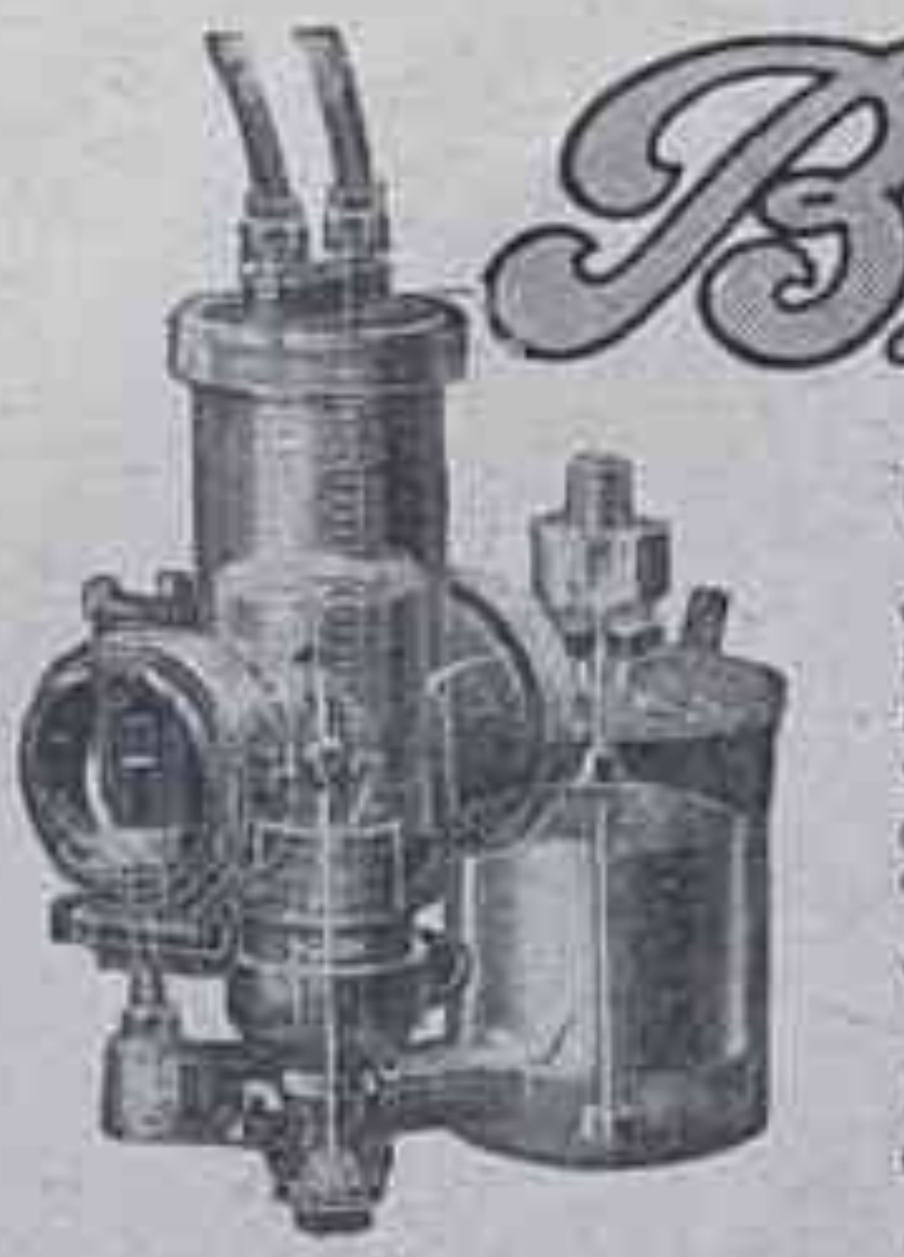

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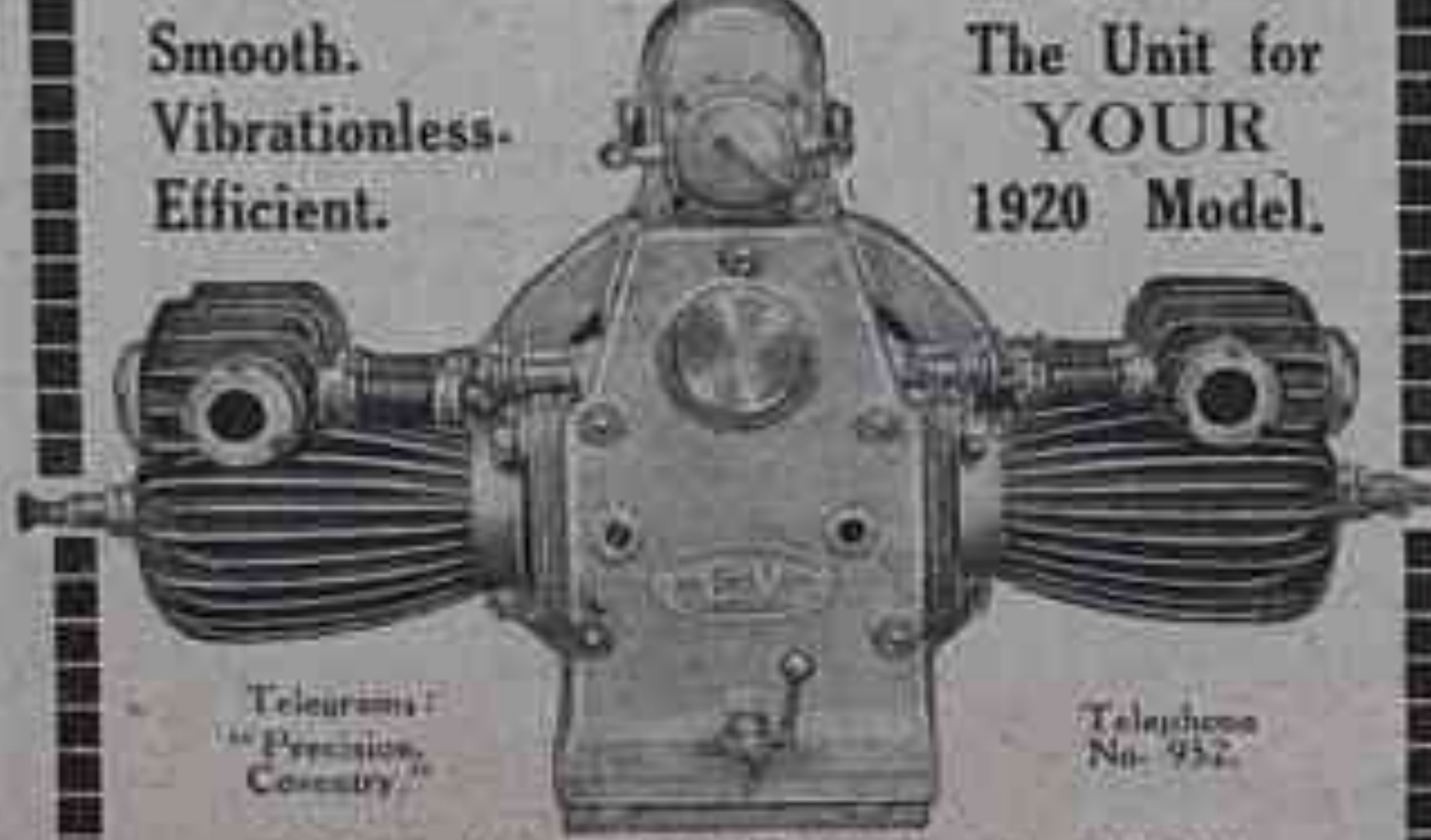

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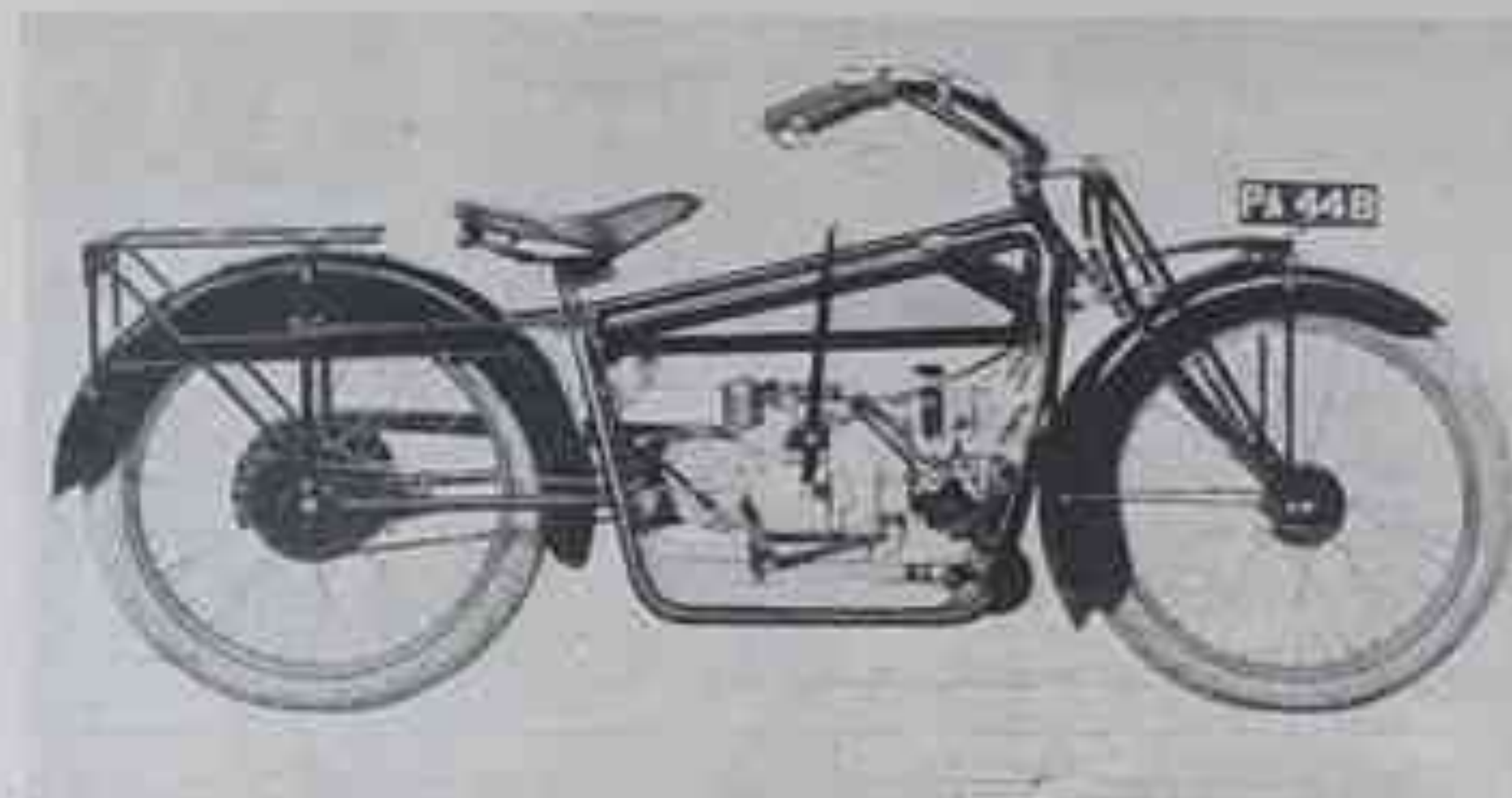

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